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ABSTRACT

The current approach to dealing with childhood lead poisoning has led to repeated diagnoses of poisoning because such children are treated and then returned to their hazardous environments. This handbook, the third in a three-volume set, provides examples of specific materials currently or recently used in ongoing state and local childhood lead poisoning prevention programs, including educational pamphlets, abatement procedures, and data collection and analysis forms. Some of the materials are accompanied by evaluations from users in order to provide a context for their use, development, and evaluation. Materials are provided in the following areas: (1) definition of primary prevention; (2) needs assessment; (3) interagency materials; (4) program planning; (5) program evaluation; (6) screening and assessments; (7) laboratory testing; (8) inspection/sampling/risk assessment; (9) lead hazard control; (10) compliance and enforcement; (11) clearance; (12) waste disposal; (13) worker protection and training; (14) data collection and analysis; (15) continuing staff and professional education; (16) written materials for adults; (17) audio-visual materials for adults; (18) games, coloring books, etc. for children; (19) audio-visual materials for children; (20) community outreach; and (21) funding resources. (KB)

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CHILDHOOD LEAD POISONING:

RESOURCES FOR PREVENTION

ED 441 613

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ACKNOWLEDGEMENTS

Childhood Lead Poisoning: Resources for Prevention was assembled by the Alliance To End Childhood Lead Poisoning. The lion's share of appreciation is owed to Maria Rapuano of the Alliance's staff who shepherded this voluminous Handbook through its different incarnations, and who steadfastly reviewed the stream of materials assembled for this volume. Thanks also goes to Beth Gaudio and John Menapace, Alliance Interns, who made a significant contribution to compiling this volume. K.W. James Rochow, Project Director, also helped review and edit materials.

Special appreciation goes to those who took time from their busy schedules to supply us with materials accompanied by critiques. Dr. Edward "Pete" Hancock, Director of the Lynchburg, Virginia Childhood Lead Poisoning Intervention Program, as usual was notable for his gracious and concerned cooperation. Special thanks also goes to Dr. Joan Luckhardt of the New Jersey Anti-Lead Poisoning Coalition; Mary Jean Brown, Assistant Director of the Massachusetts Lead Poisoning Prevention Program; Brad Prenney, Director of the Massachusetts Lead Poisoning Prevention Program; Steven M. Hays, Chairman of the Board of Gobbell Hays Partners, Inc.; Lucy Billings, Director of Special Litigation and Training, Bronx Legal Services; and the staff of the Milwaukee Health Department for all of their herculean efforts in supplying needed materials for this volume.

We also want to thank the members of the Primary Prevention Strategies Project's Technical Advisory Committees -- unfortunately, too numerous to mention by name -- who unstintingly contributed their time to make this project a success.

We particularly want to thank the U.S. Environmental Protection Agency whose Primary Prevention Strategies grant made this Handbook possible.

HOW TO USE THIS HANDBOOK

This Handbook complements two other booklets prepared by the Alliance To End Childhood Lead Poisoning. The three documents together are intended to provide a framework to catalyze action to develop effective childhood lead poisoning prevention programs.

- **Childhood Lead Poisoning: Blueprint for Prevention** -- This Handbook is designed to convince state and local decision-makers to develop, fund, and sustain childhood lead poisoning prevention programs. It sets forth the compelling arguments why it is in everyone's interest to move to preventive programs. In addition, this volume outlines the elements of such a program and contains a short bibliography.
- **Childhood Lead Poisoning: Developing Prevention Programs and Mobilizing Resources** -- This volume describes in more detail the program requirements outlined in *Blueprint for Prevention*. It serves as a guide for developing and implementing prevention programs at the local level based on the coordination of program elements and priority setting.
- **Childhood Lead Poisoning: Resources for Prevention** -- This volume provides examples of specific materials used in ongoing childhood lead poisoning prevention programs. Evaluations by the people who actually use them accompany some of the materials. Educational pamphlets, abatement procedures, and data collection and analysis forms are among the included materials.

HOW TO OBTAIN ADDITIONAL COPIES

Additional copies of this Handbook may be obtained from the Alliance:

Alliance To End Childhood Lead Poisoning
227 Massachusetts Avenue, N.E., Suite 200
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SUPPLEMENTARY INTRODUCTION, PPS HANDBOOK VOLUME III

This volume contains forms and materials currently used or recently developed for use by state and local childhood lead poisoning programs. Inclusion of these materials in this Handbook does not represent an endorsement of them. Rather, the forms and documents collected here are presented as examples of the types and range of program-related materials utilized in existing program operation. Whenever possible, forms and materials in this volume have been critiqued by people who use them in order to provide a context for their use, development, and evaluation.

To conserve space, only the face sheets of some voluminous documents have been place in this volume. Contact information is contained on the face sheets.

The materials in this Handbook have been pre-punched for placement in a three-ring binder. The expectation is that each reader will individualize this volume by adding and subtracting materials as additional and more advanced materials become available.

CHILDHOOD LEAD POISONING: RESOURCES FOR PREVENTION

* = Annotated or critiqued material

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I.
Definition of
Primary Prevention

prepared by the Centers for Disease
Superintendent of Documents, U.S.
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March 27, 1992 / Vol. 41 / No. RR-3

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Recommendations
and
Reports

A Framework for Assessing the Effectiveness of Disease and Injury Prevention

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control
Epidemiology Program Office
Atlanta, Georgia 30333

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Behavioral prevention strategies. Behavioral change models (health promotion) use a broad array of strategies to encourage lifestyle changes, such as exercise, smoking cessation, and healthful diets. Accomplishment of these behavior changes may require changing a person's knowledge and attitudes, as well as the behaviors, of individuals or groups. This is a complex, sequential process.

Environmental prevention strategies. Environmental strategies (health protection)—such as safe water, fluoridation, lead abatement, regulations on public smoking, seat-belt laws, and safer highways—generally require societal commitment for the implementation of the extensive interventions needed. Once these changes are made, they require little individual effort from the beneficiary and can have far-reaching impact.

Obtaining clinical services or effecting behavioral changes require that individuals make personal efforts to take necessary actions. Preventive environmental services, on the other hand, are for the most part passive, requiring little or no action on the part of the beneficiary.

Framework II: Targeting Intervention by Stage of Disease or Injury

Primary prevention. Primary prevention is the reduction or control of causative factors for a health problem and includes reducing risk factors—such as smoking to prevent lung cancer or sex education to reduce sexually transmitted diseases—and environmental exposures—such as reducing ambient lead to prevent intellectual impairment. This category also includes health-service interventions, such as vaccinations or such preventive "therapy" tools as fluoridated water supplies or dental sealants.

Secondary prevention. Secondary prevention involves early detection and treatment, such as mammography for detecting breast cancer or contact tracing for detecting and treating persons with sexually transmitted diseases.

Tertiary prevention. Tertiary prevention involves providing appropriate supportive and rehabilitative services to minimize morbidity and maximize quality of life, such as rehabilitation from injuries. It includes preventing secondary complications among individuals with disabilities, such as shoulder overuse syndrome among wheelchair users or bedsores among those confined to bed.

Rational choices can only be made based on valid and timely information on the efficacy, effectiveness, and cost of each prevention strategy. This information allows comparison of alternative approaches for an individual condition— e.g., the relative effects of seat belts, passive restraints, safer highways, or more efficient and available emergency medical services on reducing morbidity and mortality from motor-vehicle crashes. Sound data facilitate difficult choices among disparate conditions, such as genetic counseling to reduce birth defects or screening and treatment programs for persons with diabetic retinopathy.

Assessing Prevention Effectiveness

The scientific approach to evaluating the effectiveness of prevention strategies may be termed "assessing prevention effectiveness." Prevention effectiveness includes the following:

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II.
Needs Assessment

The following tables present information relevant to assessing the need for lead poisoning prevention services in local communities and the ranking of cities and towns by HSA. A key is provided to explain the computer names for the variables and what data they represent (e.g., the number of children confirmed as lead poisoned by venous blood sample between October 1, 1988 and September 30, 1989 (CLPPP)).

KEY TO NEEDS ASSESSMENT

VARIABLE	
(1) city/town	Cities/towns listed alphabetically by Health Service Area
(2) pop.	Total number of children 6 months to six years of age. (Number of births recorded 1983 - 1988, Division of Health Statistics).
(3) number tested	Number of children screened for lead poisoning by CLPPP or MCH projects from October 1, 1988 through September 30, 1989.
(4) screen rate	The percent of children at risk (6 months - 6 years) who were screened for lead poisoning between October 1, 1988 and September 30, 1989. (CLPPP).
(5) number poisoned	The number of children confirmed as lead poisoned by venous blood sample between October 1, 1988 and September 30, 1989. (CLPPP).
(6) inc. rate	The incidence rate of lead poisoning as determined by the number of venous confirmed cases divided by the number of children screened. (CLPPP).
(7) # in cms	The number of cases under case management as of October 1, 1989.
(8) houses prior 1950	Total number of housing units built prior to 1950 (1970 Census Data).
(9) % old houses	The percentage of all housing units that were built before 1950 (1970 Census).

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LEAD POISONING NEEDS ASSESSMENT
LISTING OF CITIES AND TOWNS
BY HEALTH SERVICE AREA (HSA)
JULY 1, 1990 - JUNE 30, 1991

CITY OR TOWN	POP.	NUMBER TESTED	SCREEN RATE	NUMBER POISONED	INC. RATE	# IN CMS	HOUSES PRIOR 1950	% OLD HOUSES
** HSA 1								
ADAMS	621	455	73.27	1	0.22	0	3424	83
AGAWAM	1860	1059	56.94	0	0.00	0	2784	39
ALFORD	40	3	7.50	0	0.00	0	43	50
AMHERST	1319	677	51.33	2	0.30	0	2247	45
ASHFIELD	150	75	50.00	0	0.00	0	233	51
BECKET	143	51	35.66	0	0.00	0	134	51
BELCHERTOWN	979	478	48.83	0	0.00	0	896	59
BERNARDSTON	148	66	44.59	0	0.00	0	271	50
BLANDFORD	100	52	52.00	0	0.00	0	124	50
BUCKLAND	156	10	6.41	0	0.00	0	331	51
CHARLEMONT	105	43	40.95	0	0.00	0	129	50
CHESHIRE	247	144	58.30	0	0.00	0	525	56
CHESTER	114	87	76.32	0	0.00	0	178	50
CHESTERFIELD	90	37	41.11	0	0.00	0	101	50
CHICOPEE	3963	1682	42.44	2	0.12	2	12025	59
CLARKSBURG	93	59	63.44	1	1.69	0	304	50
COLRAIN	145	72	49.66	0	0.00	0	222	50
CONWAY	146	63	43.15	0	0.00	0	143	50
CUMMINGTON	55	37	67.27	0	0.00	0	81	50
DALTON	539	296	54.92	0	0.00	0	1339	60
DEERFIELD	310	173	55.81	0	0.00	0	815	67
EAST LONGMEADOW	927	484	52.21	1	0.21	0	1351	36
EASTHAMPTON	1146	727	63.44	1	0.14	1	2984	67
EGREMONT	80	18	22.50	0	0.00	0	207	50
ERVING	93	23	24.73	0	0.00	0	212	50
FLORIDA	59	7	11.86	0	0.00	0	96	50
GILL	122	56	45.90	0	0.00	0	175	51
GOSHEN	71	27	38.03	0	0.00	0	70	51
GRANBY	396	152	38.38	0	0.00	0	510	34
GRANVILLE	121	56	46.28	1	1.79	1	167	50
GREAT BARRINGTON	497	284	57.14	0	0.00	2	2112	81
GREENFIELD	1494	687	45.98	0	0.00	1	5217	79
HADLEY	256	161	62.89	1	0.62	2	722	58
HAMPDEN	306	134	43.79	0	0.00	0	3398	32
HANCOCK	51	7	13.73	0	0.00	0	98	51
HATFIELD	183	122	66.67	0	0.00	0	637	71
HAWLEY	31	5	16.13	0	0.00	0	32	50
HEATH	62	13	20.97	0	0.00	0	55	50
HINSDALE	147	84	57.14	0	0.00	0	251	51
HOLYOKE	4604	2846	61.82	10	0.35	20	15201	82
HUNTINGTON	191	118	61.78	0	0.00	0	253	50
LANESBOROUGH	206	92	44.66	0	0.00	0	567	61
LEE	420	227	54.05	0	0.00	0	1248	65
LENOX	337	191	56.68	0	0.00	0	1088	59
LEVERETT	133	52	39.10	0	0.00	0	172	50
LEYDEN	73	29	39.73	0	0.00	0	54	50

BEST COPY AVAILABLE

CITY OR TOWN	POP.	NUMBER TESTED	SCREEN RATE	NUMBER POISONED	INC. RATE	# IN CMS	HOUSES PRIOR 1950	% OL HOUSE
** HSA 1								
LONGMEADOW	964	586	60.79	0	0.00	0	1958	4
LUDLOW	1238	632	51.05	0	0.00	0	2358	4
MIDDLEFIELD	29	9	31.03	0	0.00	0	42	5
MONROE	10	3	30.00	0	0.00	0	34	5
MONSON	559	260	46.51	0	0.00	0	1262	6
MONTAGUE	686	356	51.90	0	0.00	0	2256	7
MONTEREY	52	29	55.77	0	0.00	0	93	5
MONTGOMERY	51	23	45.10	0	0.00	0	64	5
MOUNT WASHINGTON	7	2	28.57	0	0.00	0	7	4
NEW ASHFORD	18	7	38.89	0	0.00	0	26	5
NEW MARLBOROUGH	85	24	28.24	0	0.00	0	228	5
NEW SALEM	66	30	45.45	0	0.00	0	68	5
NORTH ADAMS	1183	894	75.57	1	0.11	1	5695	86
NORTHAMPTON	1572	1071	68.13	1	0.09	1	6834	76
NORTHFIELD	228	112	49.12	0	0.00	0	746	82
ORANGE	669	356	53.21	0	0.00	1	1821	84
OTIS	99	160	161.6	0	0.00	0	118	50
PALMER	892	474	53.14	4	0.84	7	2549	65
PELHAM	107	85	79.44	0	0.00	0	135	50
PERU	83	38	45.78	0	0.00	0	37	51
PETERSHAM	74	33	44.59	0	0.00	0	151	50
PHILLIPSTON	126	57	45.24	0	0.00	0	125	50
PITTSFIELD	3668	2528	68.92	1	0.04	4	14249	76
PLAINFIELD	42	25	59.52	0	0.00	0	41	50
RICHMOND	94	53	56.38	0	0.00	0	261	50
ROWE	27	14	51.85	0	0.00	0	40	51
ROYALSTON	114	45	39.47	0	0.00	0	117	51
RUSSELL	133	74	55.64	0	0.00	0	213	50
SANDISFIELD	54	21	38.89	0	0.00	0	78	50
SAVOY	49	27	55.10	0	0.00	0	46	5
SHEFFIELD	194	95	48.97	0	0.00	0	466	5
SHELBURNE	150	138	92.00	1	0.72	0	318	50
SHUTESBURY	158	59	37.34	0	0.00	0	71	51
SOUTH HADLEY	993	369	37.16	0	0.00	0	2586	52
SOUTHAMPTON	349	195	55.87	0	0.00	0	319	35
SOUTHWICK	620	366	59.03	1	0.27	1	808	42
SPRINGFIELD	14807	8884	60.00	56	0.63	68	42233	75
STOCKBRIDGE	110	59	53.64	0	0.00	0	415	50
SUNDERLAND	277	150	54.15	0	0.00	0	417	50
TOLLAND	24	11	45.83	0	0.00	0	24	49
TYRINGHAM	23	2	8.70	0	0.00	0	34	51
WARE	832	391	47.00	1	0.26	1	2143	74
WARREN	415	198	47.71	1	0.51	1	944	80
WARWICK	57	24	42.11	0	0.00	0	71	50
WASHINGTON	42	22	52.38	0	0.00	0	58	50
WENDELL	69	30	43.48	0	0.00	0	58	50
WEST SPRINGFIELD	1967	929	47.23	0	0.00	0	5618	58
WEST STOCKBRIDGE	116	46	39.66	0	0.00	0	247	50
WESTFIELD	2974	1760	59.18	2	0.11	1	5846	60
WESTHAMPTON	132	68	51.52	0	0.00	0	114	50
WHATELY	104	41	39.42	0	0.00	0	176	50
WILBRAHAM	838	395	47.14	0	0.00	0	1104	32
WILLIAMSBURG	197	161	81.73	0	0.00	1	370	50
WILLIAMSTOWN	359	251	69.92	0	0.00	0	1513	62

BEST COPY AVAILABLE

CITY OR TOWN	POP.	NUMBER TESTED	SCREEN RATE	NUMBER POISONED	INC. RATE	# IN CMS	HOUSES PRIOR 1950	% OLD HOUSES
** HSA 1								
WINDSOR	76	32	42.11	0	0.00	0	67	50
WORTHINGTON	99	47	47.47	0	0.00	0	111	55
** TOTAL FOR HSA 1 **								
	62290	34972	56.14	89	0.25	116	171009	65
** HSA 2								
ACTON	1379	543	39.38	0	0.00	0	995	24
ASHBURNHAM	488	284	58.20	0	0.00	0	805	75
ASHBY	259	122	47.10	0	0.00	0	360	50
ATHOL	1071	517	48.27	0	0.00	2	3437	85
AUBURN	1006	721	71.67	0	0.00	0	2288	50
AYER	668	982	147.0	1	0.10	1	1632	72
BARRE	424	244	57.55	1	0.41	1	979	83
BELLINGHAM	1366	755	55.27	0	0.00	0	1133	31
BERLIN	185	100	54.05	1	1.00	1	298	50
BLACKSTONE	766	276	36.03	1	0.36	1	1329	68
BOLTON	273	150	54.95	0	0.00	0	280	50
BOXBOROUGH	231	100	43.29	0	0.00	0	206	50
BOYLSTON	264	182	68.94	0	0.00	0	438	53
BRIMFIELD	260	124	47.69	0	0.00	0	303	50
BROOKFIELD	274	188	68.61	0	0.00	0	315	50
CHARLTON	971	422	43.46	0	0.00	0	811	58
CLINTON	1104	753	68.21	2	0.27	1	3578	81
DOUGLAS	507	227	44.77	0	0.00	0	734	75
DUDLEY	688	468	68.02	2	0.43	1	1476	57
DUNSTABLE	203	70	34.48	0	0.00	0	178	50
EAST BROOKFIELD	151	77	50.99	0	0.00	0	276	51
FITCHBURG	3622	2141	59.11	16	0.75	20	11985	81
FRANKLIN	2061	1499	72.73	0	0.00	0	2080	46
GARDNER	1664	1050	63.10	3	0.29	3	5390	83
RAFTON	973	561	57.66	1	0.18	0	1930	61
GROTON	692	292	42.20	0	0.00	0	1033	64
HARDWICK	219	92	42.01	0	0.00	1	401	50
HARVARD	1329	175	13.17	0	0.00	0	539	24
HOLDEN	1184	556	46.96	1	0.18	0	1499	39
HOLLAND	232	108	46.55	0	0.00	0	134	50
HOPEDALE	530	300	56.60	0	0.00	0	988	76
HUBBARDSTON	282	171	60.64	0	0.00	0	222	50
LANCASTER	453	277	61.15	0	0.00	0	954	57
LEICESTER	800	529	66.13	1	0.19	2	1457	57
LEOMINSTER	3254	2258	69.39	1	0.04	0	6838	66
LITTLETON	561	244	43.49	0	0.00	0	924	49
LUNENBURG	703	371	52.77	0	0.00	0	1011	45
MEDWAY	939	586	62.41	1	0.17	0	1034	49
MENDON	341	191	56.01	0	0.00	0	511	62
MILFORD	2069	1208	58.39	1	0.08	1	4083	66
MILLBURY	835	555	66.47	0	0.00	0	2185	60
MILLVILLE	225	86	38.22	0	0.00	0	269	50
NEW BRAINTREE	89	35	39.33	0	0.00	0	90	50
NORTH BROOKFIELD	470	209	44.47	3	1.44	2	968	77
NORTHBRIDGE	1201	491	40.88	5	1.02	2	2809	75
OAKHAM	157	73	46.50	0	0.00	0	113	54
OXFORD	1025	643	62.73	1	0.16	1	1641	57
PAXTON	302	165	54.64	0	0.00	0	256	28

BEST COPY AVAILABLE

CITY OR TOWN	POP.	NUMBER TESTED	SCREEN RATE	NUMBER POISONED	INC. RATE	# IN CMS	HOUSES PRIOR 1950	% OLD HOUSES
** HSA 2								
PEPPERELL	1068	395	36.99	0	0.00	0	1152	6
PRINCETON	280	138	49.29	0	0.00	0	241	5
RUTLAND	444	223	50.23	0	0.00	0	497	55
SHIRLEY	494	237	47.98	0	0.00	0	741	51
SHREWSBURY	1663	997	59.95	1	0.10	1	2749	47
SOUTHBRIDGE	1496	981	65.57	1	0.10	0	4962	83
SPENCER	963	515	53.48	2	0.39	2	2149	74
STERLING	560	324	57.86	0	0.00	0	736	58
STURBRIDGE	665	412	61.95	0	0.00	0	755	49
SUTTON	607	316	52.06	0	0.00	0	783	55
TEMPLETON	483	271	56.11	0	0.00	0	1241	74
TOWNSEND	830	401	48.31	1	0.25	0	819	63
UPTON	357	222	62.18	0	0.00	0	694	63
UXBRIDGE	903	426	47.18	0	0.00	1	1923	73
WALES	143	78	54.55	0	0.00	0	123	51
WEBSTER	1381	913	66.11	6	0.66	5	4050	75
WEST BOYLSTON	402	183	45.52	0	0.00	0	814	45
WEST BROOKFIELD	285	141	49.47	0	0.00	0	524	60
WESTFORD	1505	697	46.31	1	0.14	0	1352	48
WESTMINSTER	466	262	56.22	0	0.00	0	744	55
WINCHENDON	977	518	53.02	0	0.00	0	1794	83
WORCESTER	13659	8409	61.56	37	0.44	48	48162	82
** TOTAL FOR HSA 2 **	68381	39230	57.37	91	0.23	97	150200	68
** HSA 3								
AMESBURY	1493	590	39.52	2	0.34	0	3111	82
ANDOVER	2237	1292	57.76	2	0.15	0	3526	49
BILLERICA	3106	1800	57.95	2	0.11	0	2999	37
BOXFORD	514	384	74.71	0	0.00	0	344	3
CHELMSFORD	2396	1329	55.47	4	0.30	1	2702	[illegible]
DRACUT	2109	1121	53.15	0	0.00	0	2254	45
GEORGETOWN	554	330	59.57	0	0.00	0	726	48
GROVELAND	475	278	58.53	0	0.00	0	732	48
HAVERHILL	4625	3393	73.36	22	0.65	16	13613	85
LAWRENCE	7885	4196	53.21	48	1.14	29	21443	86
LOWELL	9793	6724	68.66	24	0.36	15	24832	79
MERRIMAC	423	191	45.15	0	0.00	0	930	72
METHUEN	3100	1082	34.90	0	0.00	1	7115	6
NEWBURY	468	261	55.77	0	0.00	0	685	57
NEWBURYPORT	1046	499	47.71	1	0.20	1	4253	79
NORTH ANDOVER	1714	893	52.10	1	0.11	0	2378	48
ROWLEY	464	272	58.62	0	0.00	0	532	58
SALISBURY	572	247	43.18	0	0.00	0	766	57
TEWKSBURY	2261	1544	68.29	0	0.00	0	1529	29
TYNGSBOROUGH	920	379	41.20	0	0.00	0	722	58
WEST NEWBURY	297	124	41.75	1	0.81	1	345	50
** TOTAL FOR HSA 3 **	46452	26929	57.97	107	0.40	64	95537	38
** HSA 4								
ARLINGTON	2681	1592	59.38	2	0.13	5	12246	68
ASHLAND	1019	514	50.44	0	0.00	0	983	39
BEDFORD	832	655	78.73	0	0.00	0	815	25

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CITY OR TOWN	POP.	NUMBER TESTED	SCREEN RATE	NUMBER POISONED	INC. RATE	# IN CMS	HOUSES PRIOR 1950	% OLD HOUSES
** HSA 4								
BELMONT	1493	838	56.13	1	0.12	1	7826	83
BOSTON	39768	34832	87.59	262	0.75	600	197525	85
RAINTREE	2171	1294	59.60	2	0.15	1	5996	62
BROOKLINE	2846	1614	56.71	1	0.06	0	18222	78
BURLINGTON	1612	883	54.78	0	0.00	0	818	15
CAMBRIDGE	5176	3550	68.59	16	0.45	16	32827	87
CANTON	1196	728	60.87	0	0.00	0	1975	42
CARLISLE	398	189	47.49	0	0.00	1	240	30
CHELSEA	2663	2782	104.5	9	0.32	12	9569	91
COHASSET	492	341	69.31	0	0.00	0	1365	63
CONCORD	1079	538	49.86	1	0.19	1	2136	48
DEDHAM	1620	1070	66.05	2	0.19	0	4723	61
DOVER	387	213	55.04	0	0.00	0	474	36
FOXBOROUGH	1145	810	70.74	0	0.00	0	1699	44
FRAMINGHAM	4434	2120	47.81	4	0.19	2	7151	37
HINGHAM	1397	938	67.14	1	0.11	1	3133	59
HOLBROOK	793	527	66.46	0	0.00	0	1223	38
HOLLISTON	1046	615	58.80	0	0.00	1	1056	33
HOPKINTON	946	534	56.45	0	0.00	0	1093	62
HUDSON	1327	887	66.84	0	0.00	0	2598	56
HULL	836	575	68.78	0	0.00	0	2266	76
LEXINGTON	1798	1114	61.96	0	0.00	0	4006	45
LINCOLN	891	199	22.33	0	0.00	0	644	34
MARLBOROUGH	2586	1650	63.81	4	0.24	0	4587	52
MAYNARD	854	376	44.03	1	0.27	2	2119	68
MEDFIELD	956	637	66.63	0	0.00	2	869	37
MILLIS	733	378	51.57	0	0.00	0	666	42
MILTON	1959	919	46.91	1	0.11	0	6088	76
NATICK	2157	1051	48.73	1	0.10	1	5466	61
NEEDHAM	2073	1264	60.97	0	0.00	0	4364	50
EWTON	4937	3158	63.97	2	0.06	0	21435	78
NORFOLK	894	641	71.70	0	0.00	0	542	49
NORTHBOROUGH	1043	618	59.25	0	0.00	0	1000	40
NORWELL	665	438	65.86	0	0.00	0	819	39
NORWOOD	1772	1370	77.31	0	0.00	0	4571	49
QUINCY	5188	3320	63.99	4	0.12	3	23646	81
RANDOLPH	2161	1398	64.69	4	0.29	2	2513	34
REVERE	2889	2273	78.68	5	0.22	9	10412	72
SCITUATE	1272	900	70.75	0	0.00	1	2399	51
SHARON	1419	893	62.93	1	0.11	1	1316	38
SHERBORN	299	179	59.87	0	0.00	0	385	43
SOMERVILLE	4231	3359	79.39	12	0.36	13	27976	94
SOUTHBOROUGH	543	297	54.70	0	0.00	0	717	44
STOW	480	199	41.46	0	0.00	0	590	52
SUDBURY	1199	751	62.64	0	0.00	0	737	22
WALPOLE	1582	1157	73.14	0	0.00	0	2171	45
WALTHAM	3082	1761	57.14	5	0.28	4	12176	66
WATERTOWN	1724	848	49.19	0	0.00	0	10260	80
WAYLAND	899	537	59.73	0	0.00	0	1435	39
WELLESLEY	1753	968	55.22	0	0.00	0	5183	65
WESTBOROUGH	979	583	59.55	2	0.34	1	1521	46
WESTON	613	361	58.89	0	0.00	0	1299	47
WESTWOOD	870	567	65.17	0	0.00	0	1571	44
WEYMOUTH	3748	2395	63.90	0	0.00	0	9015	57

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CITY OR TOWN	POP.	NUMBER TESTED	SCREEN RATE	NUMBER POISONED	INC. RATE	# IN CMS	HOUSES PRIOR 1950	% OLI HOUSE
** HSA 4								
WILMINGTON	1449	958	66.11	0	0.00	1	1811	4
WINCHESTER	1415	922	65.16	1	0.11	0	4312	6
WINTHROP	997	746	74.82	0	0.00	0	5788	85
WOBURN	2588	1704	65.84	1	0.06	2	5392	50
WRENTHAM	751	566	75.37	0	0.00	0	985	60
** TOTAL FOR HSA 4 **								
	142806	100094	70.09	345	0.34	683	508745	71
** HSA 5								
ABINGTON	1091	725	66.45	3	0.41	0	2142	61
ACUSHNET	586	389	66.38	0	0.00	0	1215	52
ATTLEBORO	3640	2317	63.65	6	0.26	4	6713	64
AVON	315	206	65.40	0	0.00	0	731	51
BARNSTABLE	2956	1641	55.51	1	0.06	0	3620	42
BERKLEY	434	193	44.47	0	0.00	0	307	50
BOURNE	1420	737	51.90	0	0.00	0	1613	38
BREWSTER	644	240	37.27	0	0.00	0	466	50
BRIDGEWATER	1425	1101	77.26	1	0.09	0	2044	65
BROCKTON	8737	6894	78.91	51	0.74	63	19039	66
CARVER	973	592	60.84	0	0.00	0	386	50
CHATHAM	288	120	41.67	0	0.00	0	921	40
CHILMARK	49	14	28.57	0	0.00	0	49	51
DARTMOUTH	1568	1061	67.67	0	0.00	0	3228	53
DENNIS	887	540	60.88	2	0.37	2	1252	29
DIGHTON	430	138	32.09	0	0.00	0	822	59
DUXBURY	1059	650	61.38	0	0.00	0	1200	49
EAST BRIDGEWATER	885	606	68.47	1	0.17	2	1371	57
EASTHAM	304	76	25.00	0	0.00	0	780	50
EASTON	1480	1061	71.69	1	0.09	1	1761	54
EDGARTOWN	233	37	15.88	0	0.00	0	378	30
FAIRHAVEN	1045	758	72.54	1	0.13	1	3894	74
FALL RIVER	7631	4232	55.46	26	0.61	14	30544	89
FALMOUTH	2028	1318	64.99	0	0.00	0	2573	38
FREETOWN	585	359	61.37	1	0.28	1	641	53
GAY HEAD	13	1	7.69	0	0.00	0	17	50
GOSNOLD	4	1	25.00	0	0.00	0	12	50
HALIFAX	547	399	72.94	0	0.00	0	380	39
HANOVER	962	643	66.84	0	0.00	0	922	35
HANSON	763	571	74.84	0	0.00	0	1014	52
HARWICH	632	272	43.04	0	0.00	0	1133	40
KINGSTON	753	607	80.61	1	0.16	0	1149	60
LAKEVILLE	637	415	65.15	0	0.00	0	626	46
MANSFIELD	1629	1222	75.02	1	0.08	0	1962	64
MARION	303	221	72.94	0	0.00	0	689	61
MARSHFIELD	1890	1335	70.63	0	0.00	0	1603	37
MASHPEE	817	405	49.57	0	0.00	0	253	50
MATTAPOISETT	399	252	63.16	0	0.00	0	756	51
MIDDLEBOROUGH	1617	1073	66.36	0	0.00	0	3053	71
NANTUCKET	469	141	30.06	0	0.00	0	1129	76
NEW BEDFORD	8257	6639	80.40	42	0.63	57	31630	86
NORTH ATTLEBORO	2188	1225	55.99	0	0.00	0	3689	62
NORTON	1192	755	63.34	0	0.00	0	1313	53
OAK BLUFFS	231	27	11.69	0	0.00	0	284	30
ORLEANS	246	87	35.37	0	0.00	0	775	52

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CITY OR TOWN	POP.	NUMBER TESTED	SCREEN RATE	NUMBER POISONED	INC. RATE	# IN CMS	HOUSES PRIOR 1950	% OLD HOUSES
** HSA 5								
PEMBROKE	1354	971	71.71	0	0.00	0	1002	32
PLAINVILLE	559	374	66.91	1	0.27	1	608	43
LYMOUTH	4020	2441	60.72	2	0.08	4	4400	64
PLYMPTON	198	128	64.65	0	0.00	0	172	50
PROVINCETOWN	150	35	23.33	1	2.86	1	1305	91
RAYNHAM	664	350	52.71	0	0.00	0	676	36
REHOBOTH	624	167	26.76	0	0.00	0	1071	57
ROCHESTER	286	169	59.09	0	0.00	0	304	50
ROCKLAND	1422	963	67.72	3	0.31	1	2584	61
SANDWICH	1381	647	46.85	0	0.00	0	622	37
SEEKONK	925	132	14.27	0	0.00	0	7726	52
SOMERSET	916	562	61.35	2	0.36	1	2395	44
STOUGHTON	1896	1342	70.78	0	0.00	0	3014	46
SWANSEA	938	525	55.97	0	0.00	0	2113	55
TAUNTON	4052	1632	40.28	10	0.61	10	10823	79
TISBURY	246	92	37.40	0	0.00	0	462	50
TRURO	103	18	17.48	0	0.00	0	228	50
WAREHAM	1695	1093	64.48	1	0.09	0	2763	62
WELLFLEET	180	42	23.33	0	0.00	0	451	50
WEST BRIDGEWATER	449	312	69.49	0	0.00	0	1084	63
WEST TISBURY	184	8	4.35	0	0.00	0	65	50
WESTPORT	791	507	64.10	0	0.00	1	1586	51
WHITMAN	1156	812	70.24	3	0.37	2	2614	68
YARMOUTH	1290	785	60.85	0	0.00	0	1076	19
** TOTAL FOR HSA 5 **								
	89721	56403	62.86	161	0.29	166	189223	63
** HSA 6								
BEVERLY	2874	2155	74.98	0	0.00	1	8515	71
DANVERS	1635	1096	67.03	1	0.09	0	3388	46
SSEX	235	155	65.96	0	0.00	0	589	64
EVERETT	2516	1608	63.91	6	0.37	7	12541	89
GLOUCESTER	2126	1365	64.21	4	0.29	4	7619	80
HAMILTON	597	409	68.51	0	0.00	0	933	50
IPSWICH	867	626	72.20	1	0.16	1	2024	60
LYNN	7297	6113	83.77	41	0.67	44	27753	85
LYNNFIELD	703	470	66.86	0	0.00	0	1018	34
MALDEN	3851	2618	67.98	5	0.19	9	15875	82
MANCHESTER	374	234	62.57	0	0.00	0	1073	64
MARBLEHEAD	1298	796	61.33	0	0.00	0	4834	65
MEDFORD	3475	2183	62.82	3	0.14	3	17148	86
MELROSE	1878	1198	63.79	2	0.17	1	7714	76
MIDDLETON	392	261	66.58	0	0.00	0	766	61
NAHANT	248	152	61.29	0	0.00	0	1013	78
NORTH READING	992	611	61.59	1	0.16	1	1121	37
PEABODY	3309	2328	70.35	6	0.26	5	6262	43
READING	1684	991	58.85	0	0.00	0	3690	57
ROCKPORT	488	277	56.76	0	0.00	0	1832	74
SALEM	2595	2410	92.87	4	0.17	6	11659	83
SAUGUS	1589	982	61.80	0	0.00	2	4668	64
STONEHAM	1467	908	61.90	1	0.11	1	3474	53
SWAMPSCOTT	879	600	68.26	0	0.00	0	3481	79
TOPSFIELD	412	304	73.79	0	0.00	0	462	33
WAKEFIELD	1819	976	53.66	0	0.00	0	5363	68

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CITY OR TOWN	POP.	NUMBER TESTED	SCREEN RATE	NUMBER POISONED	INC. RATE	# IN CMS	HOUSES PRIOR 1950	% OLD HOUSES
** HSA 6								
WENHAM	215	145	67.44	1	0.69	1	556	5
** TOTAL FOR HSA 6 **	45815	31971	69.78	76	0.24	86	155371	72
*** TOTAL FOR STATE ***	455465	289599	63.58	869	0.30	1212	1270085	65

VII.
Interagency Materials

SOURCES OF LEAD IN THE ENVIRONMENT

A guide to the regulation, identification, and remediation of lead in the home, at work and outdoors

NEW JERSEY
INTERAGENCY TASK FORCE
ON THE PREVENTION OF
LEAD POISONING

June 1994

PREFACE

As the most densely populated state of the Union and among those with the oldest and most extensive industrial heritage, New Jersey is particularly subject to the dangers of lead poisoning. A legacy of lead in our homes, soil, and water often creates unacceptable levels of exposure to children, adults, and animals. Since the mid-1980s, the Interagency Task Force on the Prevention of Lead Poisoning has endeavored to educate the public and policymakers about the dangers of lead. By providing information on ways to identify lead in the environment, agency responsibilities, and regulatory and legislative requirements, this document, we hope, will be useful in efforts to reduce exposure to lead. This booklet was prepared by the Sources and Education Subcommittees of the Interagency Task Force for the Prevention of Lead Poisoning.

Bob Tucker, Chair
Interagency Task Force on Prevention of Lead Poisoning

This booklet was developed by Eileen Murphy and is now in its third edition. Please check the date of publication because state and federal laws and regulations change frequently.

Editors : Joan Cook Luckhardt and Randy England

Special thanks to Task Force members who reviewed the document such as Rich Ritota, EHS, Barbara Gerwell, M.D. and to the Sources and Education Subcommittees members:

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Thanks to Louis Bevilacqua, USEPA for his careful review of the text.

This manual serves as an informational guide only. It is not intended as a regulatory review or for legal purposes. Please contact the appropriate individual or agency listed for additional, more specific information about any particular lead source.

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I.0 INDOOR SOURCES

I.1 Paint and Dust

Regulatory Summary:

FEDERAL: The Lead-based Paint Poisoning Prevention Act, passed by the U.S. Congress in 1971 (P.L. 91-695) and amended in 1973, mandates prevention of lead poisoning by removing indoor lead-based paint where exposure is likely in all Department of Housing and Urban Development (HUD) assisted housing and made HUD the responsible agency. The Consumer Product Safety Commission limits lead in all residential paint sold after 1978 to 0.06%. In 1987, the Housing and Community Development Act required HUD to prepare for abatement of lead-based paint hazards in housing. In the 1992 Housing and Community Development Act (P.L. 102-550), the U.S. Congress included the Residential Lead-Based Paint Hazard Reduction Act, commonly called Title X (see Appendix for further requirements). In federally assisted or federally sold housing built prior to 1978, HUD will develop guidelines on risk assessments, inspections, interim controls and abatement of lead-based paint hazards. In October of 1995, buyers of pre-1978 houses are to be given a warning and up to 10 days to get a lead hazard inspection or assessment. The sales contract must disclose the presence of *known* lead-based paint. Also by 1995, landlords must disclose the presence of known lead-based paint hazards to prospective lessors of pre-1978 housing. It mandates the accreditation of training providers and training and certification of lead abatement professionals. Research showing that ingestion or inhalation of lead poisoned children at levels lower than previously thought and resulted in new regulations, standards, and laws. The Centers for Disease Control (CDC) lowered their level of concern for childhood blood lead to 10 mcg/dl (μg/dL) in 1991.

STATE: State law passed in 1971 (NJSA 24:14A1 et seq) prohibits the use of lead-paint and requires local health departments to inspect dwellings where children with elevated blood lead levels (EBLs) reside. As a result of this law, the State adopted NJAC 8:51, Chapter XIII State Sanitary Code in July, 1972, which mandates the remediation of lead paint where a lead poisoned child is identified. It also specifies methods for removal of interior and exterior lead paint. Legislation signed December 16, 1993 (P.L. 1993, Ch. 288) establishes a training and certification program for individuals and businesses performing lead hazard evaluation and abatement services. The law provides for the DOH to certify training courses and to issue permits to individuals who have successfully completed a certified course and exam. The DCA will certify business firms meeting requirements for sufficient numbers and types of personnel properly trained and certified. A construction permit will only be issued to a building owner using his own DOH certified employees, a homeowner doing the abatement work himself, or a business firm certified by the DCA.

b. **Identification and Assessment of Lead:** Homes built prior to 1978 may contain lead paint. Generally, the older the home, the more likely its paint contains lead. HUD estimates that homes built prior to 1940 have over a 90 percent chance of containing lead-based paint. If you see peeling paint in your old home, or if you plan to remove old paint, you should have it tested for the presence of lead, and you should take care in removing it. Call your local Department of Health to have your interior paint tested for lead. Names of labs certified to test paint films, dust and soils are available from the (800)424-LEAD hotline. The list is updated quarterly. Some home test kits are available for this purpose but should only be used to screen for the presence of lead and are not accurrate at low levels. The June 1990 issue of Consumer Reports describes home test kits and how to order them. Infants and toddlers are at greatest risk of ingesting lead. If a dwelling frequented by your child has peeling paint, call your physician or local health department to test your child for lead.

c. **Remediation of Lead:** When there is a child with a blood lead level equal or greater than 20 ug/dL, lead paint must be abated according to the specifications described in Chapter XIII of the Sanitary Code. This is available by contacting the NJDOH, CLPP, CN 364, Trenton, NJ 08625-0364. HUD Guidelines at the federal level are described in the Federal Register, April 18, 1990 (Revised, September 1990). Propertyowners receiving HUD financing for lead removal should use the most stringent standards and meet all HUD guidelines.

d. **Contact for more information:** The DCA, Lead-Based Paint Abatement Program provides information on abatement, HUD requirements, financing, and housing programs (609) 633-6179. The National Lead Information Center (800)LEAD-FYI provides literature on lead poisoning and abatement. Technical experts answer questions by phone about lead at (800) 424-LEAD. Abatement and program information is available from USHUD at (202)755-1805. For information on certification and training programs call the Environmental Health Services at (609) 984-2193. For business abatement certification information call (609) 530-8812. Information on blood lead testing is available from the NJDOH at (609)292-5666. For immediate advice if you suspect lead poisoning, call the NJ Poison Control Center at (800)962-1253. For educational materials on childhood lead poisoning, contact the NJ Dept. of Human Services, Office for the Prevention of Mental Retardation and Developmental Disabilities at (609)984-3351.

I.2 **Drinking Water**

a. **Regulatory Summary:**

FEDERAL: The use of lead in pipes or solder in potable water supply plumbing was banned in 1986. Effective December, 1992, new regulations set a treatment technique action level for lead at 15 ppb in a one liter (1,000 mL) water sample: 90% of all samples taken by a water purveyor under a rigid monitoring network, must be below 15 ppb. EPA expects this change in the lead standard to result in a net average of less than 5 ppb lead showing up in drinking water. For school drinking water, EPA recommends an action level of 20 ppb in a 250 mL water sample. EPA's Office of Solid Waste and Emergency Response recommends a groundwater clean up standard of 15 ppb near Superfund sites if the water is used as a drinking water source.

STATE: New Jersey adopted the federal regulations.

b. **Identification and Assessment of Lead:** If you have lead solder, lead-containing fixtures (chrome and brass faucet fixtures may contain lead), brass pump for your well, or lead pipes in your plumbing, you may have elevated levels of lead in your drinking water. Older homes (constructed before 1930) having lead pipes or lead service mains, and newer homes (constructed after 1980, but before the 1986 ban on lead solder for potable water) having lead-soldered joints are most vulnerable to lead in drinking water. Minerals can coat the inside of old pipes and protect the water from leaching lead from the pipes, unless the water is corrosive (i.e., low mineral content and/or acidic). Contact a State-certified laboratory to have them analyze your drinking water for lead; look in your phone book under "Labs, Environmental" or "Water Testing". Your local Health Dept. may also provide water testing services. Take two water samples from your kitchen tap: one sample first thing in the morning and another sample after running the water for five minutes.

c. **Remediation of Lead:** First check with your water company to determine if the tested lead level for the water supplies falls within the guidelines. If not, have your water tested for lead (taking a first draw and a flushed sample as described above). If your lead level is below 15 ppb, it is considered to be safe to drink. If your first draw lead level is above 15 ppb, you should flush the water before using it (let it run until the water changes temperature). Always take cooking water from the cold water tap.

Sometimes, it is necessary for homeowners who have their own wells to install treatment systems to reduce the corrosivity of water in order to alleviate a lead problem. If your flushed water sample is above 15 ppb, call the Bureau of Safe Drinking Water for advice: (609)292-5550. In some instances, treatment may already be underway by the water purveyor.

When purchasing new faucets and other fixtures, purchase lead-free fixtures, which are now commercially available.

d. **Contact for more information:** You may contact your water company for information regarding lead in the system. If your home is considered vulnerable to contamination, your water company may sample your water for free - contact them for more information. If you have a private well and your flushed lead level is above 15 ppb, call the Bureau of Safe Drinking Water at (609)292-5550 for advice. For general information about lead in water or about the new regulations about lead in drinking water, you may call the EPA Drinking Water Hotline at (800)426-4791.

I. 3. Ceramic Pottery & Dishes Including Crystal

a. **Regulatory Summary:**

FEDERAL: The US Food and Drug Administration (FDA) recommends the following threshold limits for lead:

▸ plates, saucers, flatware		3.0 ppm
▸ cups and mugs		0.5 ppm
▸ small bowls		2.0 ppm
▸ pitchers		0.5 ppm
▸ bowls larger than 1 liter		1.0 ppm
▸ silver-plated hollowware to hold liquid (e.g. tea sets, creamers)	(adults)	7.0 ppm
	(children)	0.5 ppm

STATE: Same as Federal.

b. **Identification and Assessment of Lead:** Lead is used in ceramics for color and for glazing. Lead cannot be detected in a piece by its color, texture or country of origin. Most ceramics currently made in the US meet federal requirements. The highest levels of lead leached were from low fired terra cotta from Latin America in tests carried out by the California Department of Health. The only way to know with certainty if a piece of ceramics has lead in it is to have it tested. The procedure for testing ceramics and pottery consists of putting acetic acid (a dilute form of acetic acid is vinegar) in the piece, allowing it to sit for a period of time, and analyzing the acid to see how much lead dissolved into the acid from the piece. This can be performed by many laboratories. At least one major ceramic company will test a piece of its china for free, at a customer's request. Leaded crystal can have very high amounts of lead, as can antique pewter.

c. **Remediation of Lead:** Avoid storing or serving food in foreign made ceramics or antique plates, unless they have been tested for lead. Low fired terra cotta from Latin America has shown to leach the highest amount of lead during tests. If you have pieces that exceed the government standards, or have untested pieces which you can assume have lead in them, don't let food come in direct contact with these containers and do not use them in the microwave. If you do use such containers, do not store any type of food (especially acidic food) in them. Acidic food, such as tomatoes, orange juice, soda, and salsa will dissolve more lead than non-acidic foods. Leaded crystal can be used safely by adults sparingly. Food and alcohol should not be stored in them. Liquids served in crystal glasses should be drunk in a short period of time. Children and infants should not be allowed to consume foods or beverages from leaded crystal.

d. **Contact for more information:** Contact the manufacturer or the store where you purchased the dishes. If this is not possible, you can use a home test kit, which can detect lead levels down to around 2.5 ppm. However, a negative result does not mean the piece is safe, only that it does not have lead levels above 2.5 ppm. For a description of some kits and how to order, see Consumer Reports June, 1990 issue. California has more stringent requirements than the federal government and has issued a report listing types of china which meets their standard. For a copy, contact the Office of the Attorney General, Press Office, 1515 K Street, Sacramento, CA, 95814 and include a self-addressed, stamped envelope with $0.52 postage. For additional information about food safety, contact the FDA, Center for Food Safety at (202)205-4317 or their consumer affairs office (301)443-3170.

I.4. **Food**

a. **Regulatory Summary:**

FEDERAL: Bottled water may contain no more than 50 ppb lead according to current FDA regulations (5ppb regulations were proposed).

STATE: Bottled water products in NJ may contain no more than 50 ppb (0.05 ppm) (NJAC 8:21-5. 143). The Packaging Reduction Act (P.L. 1991) C 39(c. 13: 1E-1 et seq.) limits heavy metals in packaging. There are no other standards for lead in food in the State.

b. **Identification and Assessment of Lead:** Lead can contaminate food at any point in a path from the farm to the table. Food crops can become contaminated from the deposition of airborne lead or from contact with contaminated soil. Urban gardens, especially near roadways, can have high concentrations of lead in soil. Certain crops, such as leafy green vegetables, can take up lead from the soil. Fruit will take up the least amount of lead from contaminated soils. Livestock may be contaminated through the ingestion of contaminated feed or through inhalation. Water fowl may contain lead shot or have ingested lead shot from lake or river bottoms. Among fish and other aquatic organisms, bottom dwellers can have high concentrations of lead if they live in contaminated water. Acidic foods can dissolve lead from containers, improperly glazed ceramic ware and pottery, or from lead soldered cans. Although the use of lead in solder in canning was banned in the US during 1993, many cans manufactured outside the US continue to contain lead solder. Mexico plans to ban lead soldered cans by 1995. Wine bottled in the US no longer has bottle necks covered with lead wrappers. Food can also become contaminated if it is prepared with contaminated water or if it comes in contact with any lead contaminated surface or dust. Paint on plastic food bags no longer contains lead (1994).

c. **Remediation of Lead:** Most domestically produced canned food should be lead-free; however, certain imported foods may be packaged in cans soldered with lead. Keep in mind the following:

- Wash fresh produce well.

- Locate vegetable gardens away from the street or house (to avoid road dust or lead-based paint chips from falling into the soil)
- Don't store food or drink in cans or crystal (see section I.3).
- Don't use water from the hot water faucet to prepare foods, particularly infant formula.
- Eat meals regularly. Children, especially, need regular meals. One may more readily absorb lead if fasting or with an empty stomach.
- Wash children's hands regularly, especially before meals.
- Do not store food in reused painted plastic bags (lead was banned for pigments used for food storage plastic bags).
- Eat foods high in calcium and iron.

d. **Contact for more information:** For additional information about food safety, contact the FDA, (202)205-4317 or their consumers affairs office at (301)443-3170 or contact the NJDOH, EHS, at (609) 984-2193.

I. 5. **Toys & Hobbies**

a. **Regulatory Summary:**

FEDERAL: Arts and crafts materials in general come under regulatory restrictions for lead content in paint, toys and furniture under the 1977 federal regulations developed by the Consumer Product Safety Commission (CPSC). However, exemptions were granted for paints used in some graphic arts and many outdoor non-household applications (e.g. paints used on highway lines, bridges, car, and boat paints, etc.). Labeling for arts and crafts materials that contain hazardous ingredients (i.e. lead) is covered under the Hazardous Art Materials Act (CPSC draft guidelines in the Federal Register April 17, 1991, vol. 56 #324 p. 15672-15710). The EPA proposes addressing other sources of population exposure to lead such as inks used in newspaper.

STATE: Toys and furniture are regulated by N.J.S.A. 24:14A-1 & 2.

b. **Identification and Assessment of Lead:** Hobbies that may be linked to sources of lead include:

- glazed pottery making,
- target shooting at firing ranges,
- lead soldering (e.g., electronics, car- and boat- repair and hobbies),
- casting lead shot, fishing sinkers or toy soldiers,
- stained-glass making,

- refinishing furniture, and
- home remodeling (i.e. lead paint).

Other common household items that can be a source of exposure are:

- ingestion of colored pigments from newspapers, magazine and children's books,
- *some* Chinese imported crayons (crayons sold by Concord Enterprises, Toys R Us, and Glory Stationery Manufacturing Co. Ltd were found to contain the most lead and were pulled from store shelves in 1994),
- lead paint on imported or old toys and children's furniture, and
- antiques (pewter, lead-painted furniture, toys, etc.).

"Lead" pencils do not contain lead. Graphite, a non-toxic material, is used in pencils. However, the coating of pencils may contain lead paint.

c. **Remediation of Lead:** Toys and/or furniture purchased in the last ten years which were manufactured in the US should be lead-free (i.e. less than 0.06% lead in paint). Items which are imported are regulated by CPSC but violations do occur and environmental regulations vary from country to country. The CPSC is currently finalizing evaluation of lead home testing kits and expects to have consumer information available within a year. Currently, home test kits can detect lead levels to 2.5 ppm (see section I.3).

d. **Contact for more information:** For a list of non-toxic arts and crafts supplies, write to: The Art and Craft Material Institute, Inc., 100 Boylston Street, Suite 1050, Boston, MA 02116 (the cost is $2.00). For more information about CPSC guidelines, contact the Office of Information and Public Affairs, Washington, DC 20207 or call them at (301)504-0580.

I. 6. Other

Some items to consider are:

Contaminating indoor air by

- **heating with contaminated heating oil** (used oil is reprocessed into home heating fuels which may contain up to 100 ppm of lead because it is exempt from regulation as a hazardous waste),
- **burning newspapers**, magazines, and foil wrapping paper printed with lead containing color inks in fireplaces,
- **taking home toxins** (occupational contaminants brought home on the clothes of workers, transferring contamination to family in the home),
- **burning lead-painted wood** in home stoves and fireplaces may contribute to lead fumes,

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- **refinishing furniture,** or
- **smoking; or**

Exposing family members by using or consuming

- **ethnic home medicines** (folk remedies which contain lead include greta and azarcon used to treat diarrhea or gastrointestinal upset; alkohl, bali goli, coral, ghasard, liga, pay-loo-ah, and rueda are folk remedies known to contain substantial quantities of lead),
- **cosmetics and dyes** (surma and kohl used around the eye for decorative or medicinal purposes contain lead as well as other metals),
- **nutritional aids** (calcium supplements derived from shells, bone or dolomite contain more lead than calcium chelates or calcium carbonates refined in the laboratory), or
- **"Moonshine."**

a. **Regulatory Summary:**

There are no specific federal or state regulations regarding these individual sources of lead. However, other nonspecific guidelines may be applicable especially for foodstuffs.

b. **Identification and Assessment of Lead:** If you or someone you know is using a lead-containing cosmetic or medicine, stop taking it. When offered a home remedy ask what the remedy contains.

c. **Remediation of Lead:** For these types of lead exposures, the best remediation is prevention. Avoid the use of these lead-containing products.

d. **Contact for more information:** The Centers for Disease Control has published a booklet that discusses these as well as other sources of lead. It is "Preventing Lead Poisoning in Young Children" and is listed in the Publications section of this document. In New Jersey, contact the Department of Health, Occupational Health Service for information about occupational exposure at (609)984-1863 or the Environmental Health Service at (609) 984-2193. The Center for Food Safety within the Food and Drug Administration (USFDA) can be reached at (202)205-4317 (food only), or their Center for Consumer Affairs at (301)443-3170.

Section II. OUTDOOR SOURCES

II.1. **Paint**

a. **Regulatory Summary:**

FEDERAL: Same as for indoor paint, when a hazard from exterior paint is identified. See HUD Guidelines: Federal Register April 18, 1990 (see Appendix, Title X).

STATE: Chapter XIII describes recommendations for removal of exterior lead paint. P.L. 1993, Ch. 288 defines who can remove leaded paint (see indoor paint).

b. **Identification and Assessment of Lead:** Exterior lead paint contributes to elevated soil lead levels and lead in the atmosphere if paint is removed by sandblasting. Over the years, an estimated 5 million metric tons of lead were added to household paint in the US. As a result of the weathering of exterior lead-based paint, soil levels surrounding the foundation of a home can be very high. It is more important to have the soil surrounding your house tested than to have the paint tested, although testing both is advised (there may be additional sources of lead in soil besides paint). Local Health Departments may test exterior paint and/or soils within their districts for free. Contact yours to find out if they provide this service. If not, contact an environmental testing laboratory in your area to find out if they test paint or soil. Not all laboratories provide this service, so keep calling until you find one that does - look in the phone book under "Laboratories, testing" or "Environmental Testing." The National Lead Laboratory Accreditation Program is in place and listings of certified labs for paint films are available from the (800) 424-LEAD hot line.

c. **Remediation of Lead:** Houses should never be dry-sandblasted if the paint may contain lead. If high-pressure water is used to clean the exterior of a house painted with lead-based paint, a water collection system is needed to prevent contamination of the soil surrounding the foundation. Guidelines for lead removal are available from the Childhood Lead Poisoning Prevention Program, NJDOH, CLPP (609)292-5666. US HUD guidelines were printed in the Federal Register 4/18/90.

d. **Contact for more information:** For interpretation of your analytical

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results or for advice on testing, contact your local Dept. of Health or call the NJDOH EHS at (609) 984-2193. Call the NJDCA, Lead-Based Paint Abatement Program at (609)633-6179 for information on cost-effective and tested techniques for removal of lead-based paint, municipal programs, abatement financing information, and codes and standards.

II.2. **Soil**

a. **Regulatory Summary:**

FEDERAL: EPA's Office of Emergency and Remedial Response is working on cleaning up industrial contaminated sites. A clean-up level is based on the particular area's natural background level of lead in soil.

STATE: New Jersey recently devised soil clean up standards for metals. The clean up level for lead in residential soils is currently 100 mg/L (i.e.,100 ppm) and 600 mg/L (600 ppm) for non-residential soils. The level may change. As new information became available on background levels of lead in NJ soils, 400 ppm of lead in residental soil was proposed (8/94).

b. **Identification and Assessment of Lead:** The most common source of lead in the soil surrounding private homes is peelings from exterior paint. Local Health Departments may test exterior paint and/or soils within their districts for free. Contact yours to find out if they provide this service. If not, contact an environmental testing laboratory in your area to find out if they test paint or soil. Not all laboratories provide this service, so keep calling until you find one that does. Look in the phone book under "Laboratories, testing" or "Environmental Testing" for listings. Call (800) 424-LEAD, a hotline, for names of certified labs. Lead in soil can be tracked into residences, so it is important to know the level of lead in the soil surrounding your home.

Surface soils in urban areas may contain elevated lead due to deposition from air from historical use of leaded gasoline. Since leaded gasoline is no longer used in New Jersey, except in some limited cases, this source should not continue to be a new source of lead to soils. Levels of 200 to 400 ppm are common in urban soils; in remote areas 150 ppm or less is more common.

c. **Remediation of Lead:** Some homeowners have removed soil containing elevated levels of lead from the site. The USEPA found that removal did not significantly reduce lead levels in homes in their study of removal of contaminated soils on sites in three cities. Less drastic measures include planting grass or shrubbery near the home to prevent children from playing in soil that may contain lead. Wood chips or layers (several inches) of clean compost can cover contaminated soils. Avoid placing vegetable gardens next to roadways, the house foundation, or where exterior paint chips accumulate.

d. **Contact for more information:** For more information about lead in soils, contact your agricultural extension service or local health department.

II.3. Airborne Particles & Dust

a. **Regulatory Summary:**

FEDERAL: The National Ambient Air Quality Standard for lead set in 1978 is 1.5 $\mu g/m^3$ quarterly average. New Source Performance Standards have reduced lead from smelters and State Implementation Plans reduced industrial sources of lead in air.

STATE: NJ sets permit levels for lead based on an ultimate goal of zero discharge on a site-specific basis. The federal guidelines are used.

b. **Identification and Assessment of Lead:** Most air lead was present due to lead in gasoline. Since the phaseout of lead in gasoline, other sources have become increasingly important: industrial sources, smelters and incinerators. Each of these sources are required to reduce lead discharges in compliance with site-specific permits.

c. **Remediation of Lead:** By reducing the amount of lead in the waste stream (through recycling efforts) and reducing the use of lead in industry, less lead will be released into the air.

d. **Contact for more information:** For general information about the Air Toxics Program in NJ, you can contact them at (609)292-6722 in NJDEP.

II.4. Waste Stream

a. **Regulatory Summary:**

FEDERAL: 1984 Hazardous and Solid Waste Amendments to RCRA prompted EPA's Office of Solid Waste to promulgate "Third third" Rule in June, 1990. It is a land ban for hazardous wastes exhibiting the

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toxicological characteristic for lead; that is, no such material may be placed on the land. The Toxic Substances Control Act Lead Pollution Prevention Plan prevents new uses of lead and limits current uses of lead.

STATE: Public Law 1991, Chapter 94 requires that all lead-acid batteries be source separated from all other solid waste for recycling. The Dry Cell Battery Management Act passed in 1992 went into effect in 1993. It requires recycling of dry cell sealed lead batteries, nickel-cadmium, and mercuric oxide batteries. Manufacturers are required to recycle batteries and retailers who sell batteries are required to accept spent batteries.

b. **Identification and Assessment of Lead.** Batteries use 1,110,000 tons of the 1,250,000 tons of lead consumed in the U.S. in 1991. Batteries containing lead include car, household and rechargeable batteries. Spent batteries comprise 65% of the lead found in landfills. Approximately 93% (37,000 tons) of lead-acid batteries are being recycled annually in NJ as estimated by the battery industry. Less than 1% of NJ's waste stream is batteries, representing about 2.3 million batteries each year.

c. **Remediation of Lead:** Recycle your batteries. All battery retailers, including auto service stations, auto supply stores and all mass marketing stores that sell lead-acid batteries must accept used lead-acid batteries when a new battery is purchased. Some municipal recycling centers include lead-acid batteries for acceptance. A car battery can contain 18 pounds of lead.

d. **Contact for more information:** Contact your local recycling center. Or, contact your county to find out when in your area household hazardous waste collection is scheduled to receive lead-acid and other rechargeable batteries (phone numbers on page 18). Call your municipality about if or when they accept batteries in their recycling program.

II.5. Gasoline

a. **Regulatory Summary:**

FEDERAL: In 1978, the changeover to unleaded gasoline began under orders by the USEPA. Despite this change, an estimated 4-5 million metric tons of lead used in gasoline prior to 1978 remain in dust and soil. Most vehicles today run on unleaded gasoline; however, leaded gasoline continues to account for about 9% of total US gasoline consumption. The

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1990 amendments to the Clean Air Act will completely prohibit the use of lead as a gasoline additive beginning in 1992 and concluding by December 31, 1995. In the meantime, it is permissible for leaded gasoline to be used in vehicles built before 1975 and all farm vehicles.

The current EPA limit for the amount of lead in leaded gasoline is 0.1 grams per gallon (g/gal) and, for unleaded gasoline, 0.05 g/gal. The difference between unleaded and leaded gasoline is that tetraethyl lead is intentionally added to leaded gasoline. Lead occurs in unleaded gasoline as a result of contamination from pipelines and storage tanks.

STATE: Leaded gasoline is not sold in New Jersey. However, tetraethyl lead additive is sold. Farmers may add it to fuel for use in farm vehicles.

b. **Identification and Assessment of Lead:** Vehicle exhaust is considered the biggest source of lead in air which over the years has meant widespread contamination of dust and soil. Although most cars now run on unleaded gasoline, leaded gasoline may still be used in farm vehicles, thus the contamination of agricultural soil may continue.

Airborne lead from gasoline is generally considered a minor source of lead exposure today, except if it is from a point source. For example, exposure can occur from pumping leaded gasoline or from breathing in leaded gasoline fumes.

c. **Remediation of Lead:** Do not purchase leaded gasoline or tetraethyl lead additive. Have children avoid playing in areas with heavy traffic. If you live near a heavy traffic area, remove shoes before entering the house. Mop floor and wash window frames periodically to remove lead dust.

II.6. Other

a. **Regulatory Summary:**

FEDERAL: Lead-based pesticides are no longer used in the U.S. Last known use was of lead-arsenate on grapefruit, and this was voluntarily canceled in 1989.

The Clean Water Act describes regulations for lead levels in sludge used in land application practices.

Section III. OCCUPATIONAL SOURCES

a. **Regulatory Summary:**

FEDERAL: Occupational exposure to lead in General Industry has been regulated by the Occupational Safety and Health Administration (OSHA) since 1979. Occupational exposure to lead in the construction industry has been regulated by OSHA since 1993. The OSHA Lead Standards (29CFR 1910.1025; 29 CFR 1926.62) require employers to follow specific requirements to prevent adverse health effects to their employees who work with lead. OSHA requirements include:

- keeping lead air levels below 50 $\mu g/m^3$,
- providing adequate respirators,
- ensuring hygiene facilities (e.g., for showering after work to remove lead dust),
- providing for medical and biological monitoring,
- removing workers who have elevated lead levels from exposure to lead, with no loss of pay,
- notifying employees, within 5 days, who have blood lead levels 40 micrograms per deciliter or above,
- training employees on sources of lead exposure, hazards associated with lead, methods of reducing lead exposure, and employee rights under the standard, and
- making copies of the standard available to employees.

STATE: The NJDOH requires laboratory reporting of blood levels in adults at or exceeding 25 $\mu g/dL$ and urine lead levels at or exceeding 80 $\mu g/L$ (NJAC 8:44-2.11). Public employees are covered under the NJ PEOSH Lead Standard, identical to the federal OSHA Lead Standard. Physician reporting of lead poisoning in adults is required as of May, 1990, in accordance with NJAC 8:57-3.2. NJDOH follow-up activities to reports of elevated lead levels from laboratories and physicians include: medical consultations to affected workers and their physicians; industrial hygiene evaluations at the workplace; and educational efforts for affected workers, their employers and physicians.

b. **Identification and Assessment of Lead:** Employers having employees who work with lead must follow the provisions of the OSHA Lead Standard. Information about lead hazards must be available from your employer as mandated by several state and federal regulations. Examples of

work associated with lead exposure includes:
- lead production or smelting,
- battery manufacturing,
- brass, copper or lead foundries,
- radiator repair,
- scrap handling,
- demolition of old structures and renovations which disturb old paint,
- welding of old, painted metal,
- thermal paint stripping of old buildings,
- sanding of old paint,
- lead soldering,
- ceramic glaze mixing,
- use of firing ranges, and
- machining or grinding lead alloys.

c. **Remediation of Lead:** Air monitoring for lead should be conducted by your employer to determine if a lead exposure problem exists at the worksite. Employee complaints concerning potential lead exposure problems can be made to the OSHA Area Office located in your area. Free consultative service is available from the NJ Department of Labor's OSHA Consultative Service. NJDOH Occupational Health Service conducts lead exposure surveillance projects and can provide information and technical assistance in the area of occupational lead toxicity.

d. **Contact for more information:** OSHA Regional Office in New York City can be reached by calling 800-827-1004 (covers four NJ area offices). NJDOH Occupational Health Service, Surveillance and PEOSH programs can be reached at (609)984-1863, and the NJ Department of Labor OSHA Consultative Service can be reached at (609)292-3922.

ACRONYMS

CDC	Centers for Disease Control (federal)
CPSC	Consumer Product Safety Commission (federal)
EPA	Environmental Protection Agency (federal)
FDA	Food and Drug Administration (federal)
HUD	Housing and Urban Development (federal)
NJDEP	New Jersey Department of Environmental Protection (state)
NJDHS	New Jersey Department of Human Services(state)
NJDOH	New Jersey Department of Health (state)
NJDCA	New Jersey Department of Community Affairs(state)
OSHA	Occupational Safety and Health Administration

PUBLICATIONS AVAILABLE

Comprehensive and Workable Plan for the Abatement of Lead-Based Paint in Privately Owned Housing, HUD, December, 1990. (call US HUD) (202)755-1805.

"Historic Buildings and the Lead Paint Hazard": write to Massachusetts Historical Commission, 80 Boylston Street, Boston, MA 02116 or call (617)727-8470.

Preventing Childhood Lead Poisoning in Young Children, CDC, October 1991: Write to CDC, Lead Poisoning Prevention Branch, F28, 1600 Clifton Road, Atlantic, GA 30333 or call (404)488-7330.

Legacy of Lead: America's Continuing Epidemic of Childhood Lead Poisoning, Environmental Defense Fund, March 1990. Call EDF, Washington at (202) 387-3500.

Lead Poisoning: What It Is and What You Can Do About It, Legal Services of NJ, 1991: Legal Services of New Jersey call (908)246-0770.(It periodically is out of print.)

Get the Lead Out: A Community Discussion Package, Call the Lead Poisoning Prevention Education and Training Program, UMDNJ-SOM, 609-566-6034. (with a video tape, articles, and leaders' guide).

"What You Should Know About Lead-Based Paint in Your Home", Consumer Product Safety Alert: Write to Publications Request, **Consumer Product Safety Commission**, Washington, D.C. 20207.

Available through EPA Safe Drinking Water Hotline, (800) 426-4791:
"Environmental Hazards in Your School: A Resource Handbook", 1990; "Lead and Your Drinking Water", 1993; "Lead in School Drinking Water (a manual for school officials)," 1989.

"Lead in Our Environment" INFOsheet: Resource Center of EOHSI, UMDNJ call (908)463-4500.
"Drinking Water and Health: Facts on Lead in Drinking Water", 1992: NJDOH, call (609)984-2193.

Lead Castings, a tri-annual newsletter and Sources of Lead in the Environment, are available from the NJ **Interagency Task Force on Prevention of Lead Poisoning**, call (609)566-6034 or -6225.

Available from NJDEP, Division of Solid Waste Management (609)530-8207:
"New Jersey Directory of Recycling Markets," "The Emergency Solid Waste Assessment Task Force: Preliminary and Final Reports," P.L. 1991, Chapter 94: The Lead-Acid Battery Recycling Act, **Office of Legislative Services** (800)792-8630 or (609)292-6395. Flyers and posters on recycling batteries will be available by 9/94.

Available from the NJDOH, CN 360, Trenton, NJ 08625-0360:
"Contacts and Information for Lead Issues", **Environmental Health Services,** call (609)984-2193. **Occupational Health Service,** (609)984-1863 has: "Occupational Exposure to Lead," Lead Paint Hazards for Contractors and Workers," "Your Lead Level," and "What Physicians Must Know About Occupational Lead Exposure." "Questions Parents Ask" and "Important information for Homeowners and Renters About Lead Paint Hazards," "Guidelines for Screening and Follow-up in New Jersey," and "Chapter XIII, NJ State Sanitary Code, Childhood Lead Poisoning," are available from **Childhood Lead Poisoning Prevention** at 609-292-5666.

Flyers, booklets, video tapes, and posters on lead issues for parents, tenants, and propertyowners are available from **UMDNJ-SOM** at 609-566-6034 or 6225. Materials for children are also available.

The Alliance to End Childhood Lead Poisoning Publications, Call (202)543-1147 :
Blueprint for Prevention: Developing Prevention Programs and Mobilizing Resources; Resources for Prevention Programs; Resources for Financing Abatement; and Framework for Action Title X

"Information on Lead In Soil and Some Solutions," and display panels "Let's Get the Lead Out" (2x3') on lead are available from the **New Jersey Environmental Federation** (908) 846-4224.

Lead in Construction is available by calling US Dept. of Labor-OSHA (202) 219-4667.
Call the OSHA Regional Office in NYC at 800-827-1004 to obtain the following:
"Code of Federal Regulations: Occupational Safety and Health Standards. Subpart Z: Toxic and Hazardous Substances - Lead". Office of the Federal Register, National Archives and Records Administration 1985 (29CFR 1910.1025). "Working with Lead in the Construction Industry". US Department of Labor Occupational Safety and Health Administration.

INFORMATION FOR GOVERNMENT AGENCIES

National Lead Education Hot Line 1-800-LEAD-FYI (information packet and poster)
NJ Lead Paint Abatement Program, Department of Community Affairs 609-633-6179
NJDEP, Division of Solid Waste Management, Recycling of Hazardous waste: 609-530-8395

Analytical Services

- NJDEP, Bureau of Environmental Laboratories: Will test household materials at the request of any health department but does not take requests directly from general public. (609)292-3131.
- NJDOH, Environmental and Chemical Laboratory Services - same as above. (609)292-8373.
- State-certified laboratories: a list of labs certified to test various media for lead is available from NJDEP, Division of Environmental Quality.
- OSHA approved laboratories for blood lead analysis: a list is available from NJDOH, Occupational Health Service, CN 360, Trenton, NJ 08625 or call (609)984-1863.

State Grant Funded Childhood Lead Poisoning Programs/Projects:

Burlington Co.	609-267-1950	Gloucester Co.	609-853-3437
Camden Co.	609-757-8603	Hudson Co.	201-547-4567
Cumberland Co.	609-794-4000	Mercer Co.	609-989-3204(Trenton)
Essex Co.	201-266-4589 (E. Orange)	Middlesex Co.	201-521-1402
	201-733-LEAD (Newark)	Monmouth Co.	908-431-7456
	201-982-5032 (Consortium)	Passaic:	201-881-6919(Paterson)
	201-676-8988 (Orange)	Union:	201-289-8600 (Elizabeth):
	201-399-6651 (Irvington)		201-753-3579 (Plainfield)

Organizations and Groups:
Lead Poisoning Prevention Education and Training Program, Department of Psychiatry, UMDNJ-SOM in Stratford, 609-566-6034, or 6225. Newark, and Trenton OPMRDD. DHS, 609-984-3351
The New Jersey Anti-Lead Poisoning Coalition-201-345-8616
The Metro LEAD Coalition (201) 676-1075
The South Jersey Lead Consortium 609-566-6034, -6225 or 609-757-0047

COUNTY RECYCLING COORDINATORS:

ATLANTIC
(609) 646-5500

BERGEN CO
(201) 641-2552

BURLINGTON
(609) 499-1001

CAMDEN
(609) 338-0882

CAPE MAY Co
(609) 465-9026

CUMBERLAND
(609) 825-3700

ESSEX COUNTY
(201) 857-2350

GLOUCESTER
(609) 863-6661

HUDSON COUNTY
(201) 795-4565

HUNTERDON
(908) 806-4236

MERCER CO.
(609) 695-1200

MIDDLESEX
(908) 745-4170

MONMOUTH
(908) 431-7460

MORRIS Co
(201) 285-6037

OCEAN COUNTY
(908) 506-5047

PASSAIC
(201) 305-5738

SALEM
(609) 935-7900

SOMERSET
(908) 231-7031

SUSSEX COUNTY
(201) 579-6998

UNION COUNTY
(908) 351-8770

WARREN
(908) 453-2174

Appendix

TITLE X PROVISIONS BEGINNING JANUARY 1, 1995

In 1992, the U.S. Congress passed the Housing and Community Development Act, which includes the Residential Lead-Based Paint Hazard Reduction Act, commonly called Title X. Highlights are listed below.

1. Buyers of and tenants in federally assisted target housing and potential customers of anyone offering to conduct abatements for compensation must receive a lead based paint hazards information booklet.

2. Periodic risk assessments and interim control measures must begin to be implemented in federally assisted target housing.

3. Inspections for the presence of LBP must occur before starting federally funded renovation or rehabilitation, which may disturb painted surfaces.

4. Reduction of LBP hazards must occur in the course of rehabilitation projects receiving less than $25,000 per unit in Federal funds; abatement of LBP hazards must occur in the course of rehabilitation projects receiving more than $25,000 per unit in Federal funds.

5. Occupants of federally assisted target housing where risk assessment, inspection, or reduction activities have occurred, must receive information describing the nature and scope of such activities, and any reports.

6. All federally-owned target housing built before 1960 must be inspected and LBP hazards abated before disposition of such housing.

7. Inspection for LBP and LBP hazards in all federally owned target housing built between 1960 and 1978 must occur before disposition of the housing. The results shared with prospective buyers, identifying the presence of LBP and LBP hazards on a surface-by-surface basis.

8.Requires accreditation of abatement professionals and training providers.

9. Standards will be set for lead based paint hazards, contaminated dusts and soils.

10. Guidelines for conducting renovation and remodeling will be developed.

How lead can affect people

Lead can cause serious permanent damage at levels much lower than was thought just a few years ago. The potential effects are listed below. Effects can vary, depending on how much lead was absorbed, how long a person was exposed, when treatment started, and the course of treatment.

Damage from lead increases as lead levels in the body rise. The numbers stand for the micrograms of lead in each deciliter of blood, a way of measuring very small amounts of lead. A deciliter equals about a cup and a half. In children, learning problems may start with 10 micrograms of lead in a deciliter of blood (10 μg/dL). That's equivalent to a marble-sized piece of lead in an Olympic-sized swimming pool.*

ADULTS EXPOSED TO LEAD

Health Effects	Micrograms of lead per deciliter of blood
Brain Disorders	100
Anemia	90
Brain problems	60
Nerve problems	60
Kidney problems	60
Decreased red blood cells	50
Slower reflexes	40
Reproductive problems	40
Blood pressure problems	30

CHILDREN EXPOSED TO LEAD

Health Effects	Micrograms of lead per deciliter
Brain Disorders	100
Kidney & stomach problems	100
Nerve problems, anemia, colic	70
Decreased red blood cells	40
Slower reflexes	30
Lower IQs	25
Learning and developmental deficits	10-15
Low birth weight	10-15
Premature birth	10-15
Hearing deficits	10

*Analogy from the Dallas Morning News /93

Blood levels in children

Centers for Disease Control and Prevention recommendations to public health agencies and physicians

Blood lead level	ACTION
<10 μg/dL	Regular screening at 12 and 24 months and annually in higher risk areas
10-14 μg/dL	Rescreen child and monitor level. Community intervention when many children are at this level.
15-19 μg/dL	Rescreen child and monitor level. Educate parents. Test for iron deficiency. Investigate environment for source.
20-44 μg/dL	Complete medical evaluation. Identify and remove environmental lead sources.
45-69 μg/dL	Medical treatment and environmental assessment and remediation to create a lead safe environment.
>=70 μg/dL	Medical treatment and environmental assessment and remediation immediately.

GLOSSARY OF MEASUREMENTS

mg/cm^2	milligrams per square centimeter
ppb	parts per billion
ppm	parts per million
$\mu g/cm^2$	micrograms per square centimeter
μg/dL	micrograms per deciliter
$\mu g/ft^2$	micrograms per square foot
$\mu g/m^2$	micrograms per square meter

Standards for Lead in the Environment

Paint guidelines

By atomic absorption laboratory analysis

600 ppm	Consumer Product Safety Commission limit for lead in residential paint
5000 ppm	HUD requires abatement of public housing units

Testing by X-Ray Fluorescence (on-site) Analysis*

Scattered Site	Direct Read	Spectrum Analyzer Guidelines for lead content
>1.6 mg/cm^2	>1.3	positive
<0.5 mg/cm^2	<0.4	negative
>0.5 and <1.6 mg/cm^2	>0.4 and <1.3	inconclusive

HUD requires abatement if the reading is 1.0 mg/cm^2 or above. Inconclusive results must be confirmed by atomic absorption laboratory test prior to abatement.

** HUD Standards*

Soil Guidelines

100 ppm	NJDEP guidelines for lead in residential soil (400 proposed)
600 ppm	NJDEP guidelines for lead in non-residential soil
<400 ppm	USEPA proposed guidelines: no action needed
>5000 ppm	USEPA proposed guidelines: soil removal is recommended Between 400 and 5000 ppm, USEPA recommends interim measures such as using wood chips, grass, or shrubs for ground cover over contaminated soil
1000 ppm	Classified as hazardous waste in Superfund sites

Water Guidelines

15 ppb	US Environmental Protection Agency action level for drinking water. Corrosion control measures should be put in place by the water company. Households should let water run until temperature changes if household plumbing is the culprit.
50 ppb	Food and Drug Administration limits on lead in bottled water (5 ppb proposed).

Air Guidelines

1.5 $\mu g/m^3$	EPA ambient air level limit with a 3 month average.

Ceramic guidelines (USFDA and CA)

3.0 ppm	flatware (e.g., plates)
2.0 ppm	hollowware, small (<1.1 liters)
1.0 ppm	hollowware, large (>1.1 liters)
.5 ppm	Mugs and pitchers

Lead In New Jersey Drinking Water(before treatment)

US EPA (1993)

Water Company	Population Served	Lead Level (ppb*)
Jersey City Dept. of Water	290618	58
City of Old Bridge, MUA	83000	42
Elizabeth Water Dept.	112000	32
Passaic Valley Water Comm.	270000	30
Bayonne Water Dept	81100	26
Newark Water Dept.	275221	23
Wayne Twp. Div. of Water	52000	18
Stockton State College	5000	160
Hoboken Water Dept.	39000	102
Monroe Twp. MUA	17000	100
Marlboro, MUA	18072	92
Lyndhurst Water Dept.	19800	72
Fairfield Water Dept.	8022	66
Totowa Water Dept.	10291	57
Fishway Water Dept,	20600	52
Newton Water & Sewer	8000	48
Point Pleasant Water Dept.	18300	47
Kearny Water Dept.	34874	45
Hamilton Twp. MUA	19000	43
Mt. Olive Twp. Water Dept.	6300	34
W. Paterson Water Dept.	6500	33
Belleville Water Dept.	32000	33
Hackettstown, MUA	16000	33
Monroe, MUA	19000	33
Ringwood Water Dept.	8500	33
Roxbury Water Co.	8900	33
Montclair Water Bureau	38000	29
West Caldwell Water Dept.	10422	27
Seaside Heights Water Dept.	3380	24
McGuire AFB	9046	23
Glen Ridge Water Dept.	7800	21
Cedar Grove Water Dept.	14000	20
Gloucester City Water Dept.	13000	20
PL Pleasant Beach Water Dept.	5600	20
Shorelands Water Co.	30000	20
Bloomfield Water Dept.	45136	19
N. Arlington Water Dept.	16000	19
Roxbury Twp. Water Dept., Shore	6316	19
Camden City Water Dept.	50000	18
Mt. Olive Villages Water	4000	18
S. Amboy Water Dept.	8500	18
Clayton Water Dept.	6200	16
Hopatcong Water Dept.	5440	16

In New Jersey other water companies found their water did not test higher than the 15 ppb standard. The small water suppliers continue to test their water. (see section I.2 for details on testing and treatment)

*parts per billion (ppb)

PERSONAL PHONE LIST

Agency	**Address**	**Phone**	**Contact Person**
Physician			
Housing Agency			
Local Health Department			
Testing Kit Manufacturer			
Environmental Laboratory			
Blood lead test Laboratory			
Testing services			
Contractor(s)			
State Agencies:			
Other:			

-NOTES-

-NOTES-

This booklet was printed with funding provided by:

The MetPath Foundation

The New Jersey Department of
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The New Jersey Department of Human Services

The New Jersey Department of Community Affairs

The City of Newark, Department of Health And Human
Services
and

The University of Medicine and Dentistry of New Jersey,
School of Osteopathic Medicine, Department of
Psychiatry

TITLE OF MATERIAL: Release of Information Forms

SOURCE: The Commonwealth of Massachusetts Department of Public Health

USE OF MATERIAL: These forms are used to document that program staff have permission to discuss a child's case with other professionals.

The Commonwealth of Massachusetts
Department of Public Health

NORTHEASTERN REGIONAL OFFICE
TEWKSBURY HOSPITAL
TEWKSBURY 01876

TEL: 617-851-7261

I, ____ authorize

____
Name of facility

to disclose to ____
Name of person or facility to which disclosure is made

the following information: ____

____

____

The purpose for releasing this data shall be _______________________

____

The above information shall not be redisclosed and should be destroyed after the stated need is fulfilled.

____
Witness

____
Patient's signature

or

____
Signature of responsible party (when applicable only)

____
Date

BEST COPY AVAILABLE

TITLE OF MATERIAL: Distinguished Physician Award "1993"

SOURCE: New Jersey Inter-Agency Task Force on the Prevention of Lead Poisoning

USE OF MATERIAL: This form is used to make nominations for this award, which is given by the Inter-Agency Task Force on the Prevention of Lead Poisoning. Awards provide incentives to officials and other members of the community to take leadership roles in preventing childhood lead poisoning.

INTERAGENCY TASK FORCE ON PREVENTION OF LEAD POISONING

DISTINGUISHED PHYSICIAN AWARD 1993

You may submit information about yourself and/or one or more other persons. Use the other side of this form, if necessary. Please include a biography or curriculum vitae/resume of the candidate.
Please return the form to:
Dr. Joan Cook Luckhardt, 385 Georges Rd. Dayton, New Jersey 08810.

Eligibility: Any physician who has served his or her community to help prevent or treat lead poisoning.

Candidate's Name:____________________ Home phone________

Address:________________________ Work phone________

____

Present position:____________________

Last position (if retired)________________

I. Achievements/Contributions to his or her community.

____
____
____

II. Service to children.

____
____
____

III. Professional awards/recognition.

____
____
____

IV. Other factors/contributions in support of this nomination.

____
____
____

Submitted by ____________________ **phone**__________
Address ______________________________

ALAMEDA COUNTY LEAD ABATEMENT PROGRAM

IMPLEMENTATION PLAN

Prepared by the Alameda County

PLANNING DEPARTMENT
HOUSING AND COMMUNITY DEVELOPMENT PROGRAM

and the Alameda County

HEALTH CARE SERVICES AGENCY

BEST COPY AVAILABLE

January 7, 1992

INTRODUCTION

On December 10, 1991, the Alameda County Board of Supervisors approved the formation of a County Service Area (CSA) including the cities of Alameda, Berkeley and Oakland as well as the unincorporated area of the County for the purpose of providing services to reduce the quantity of environmental lead to which residents in pre-1978 housing are exposed. As described in the August 1991 Alameda County Lead Abatement Program, the program will provide:

- community education and outreach to property owners;
- outreach to health care professionals;
- professional education for contractors and construction workers;
- referral for blood-lead screening and medical treatment;
- case management and monitoring;
- environmental screening; and
- environmental lead abatement, monitoring, and in-place management.

With the approval of the CSA, implementation of the program is now at hand. Starting from the August 1991 program plan, the following report describes changes and provides further detail on 1) the organization of the program, and 2) the plans for each major program function for the first program year, July 1, 1992 through June 30, 1993. In addition, the report outlines the start-up activities that will take place from January 1, 1992 through June 30, 1992 to have the program operational on July 1, 1992.

PROGRAM ORGANIZATION

1. Joint Powers Authority

As described in the August 1991 report, the central organization in the management of the Lead Abatement Program will be a Joint Powers Authority (JPA) which consists of participating jurisdictions, initially the cities of Alameda, Berkeley, and Oakland, and the County. Voting on the JPA will be proportional to the respective property assessment contribution from property located in each jurisdiction. The JPA will approve programs, set policies, and enter into contracts to accomplish the purposes of the Lead Abatement Program.

2. County Service Area

Based on the budget, the JPA will recommend an annual assessment rate to the Board of Supervisors, the governing body of the County Service Area (CSA). The CSA is the basic local funding mechanism for the JPA and has the legal authority to collect assessments for the purpose of providing program services.

3. Working Groups

As a refinement of the earlier program organization, two working groups which will advise the JPA on policy and programmatic issues have been added. The first of these, the Health Working Group, is composed of public and private health professionals and will make recommendations on testing of children, medical treatment and follow-up, case management, and health professional education. The second, the Environmental Intervention Working Group, will include industrial hygienists, inspectors, and other construction professionals, and will make recommendations on environmental testing, in place management, and abatement. Together, these working groups will provide a source of input from experts from a wide range of organizations and professions which will strengthen the overall effectiveness and acceptance of the program in the county.

4. Contract Services: Non-Profit

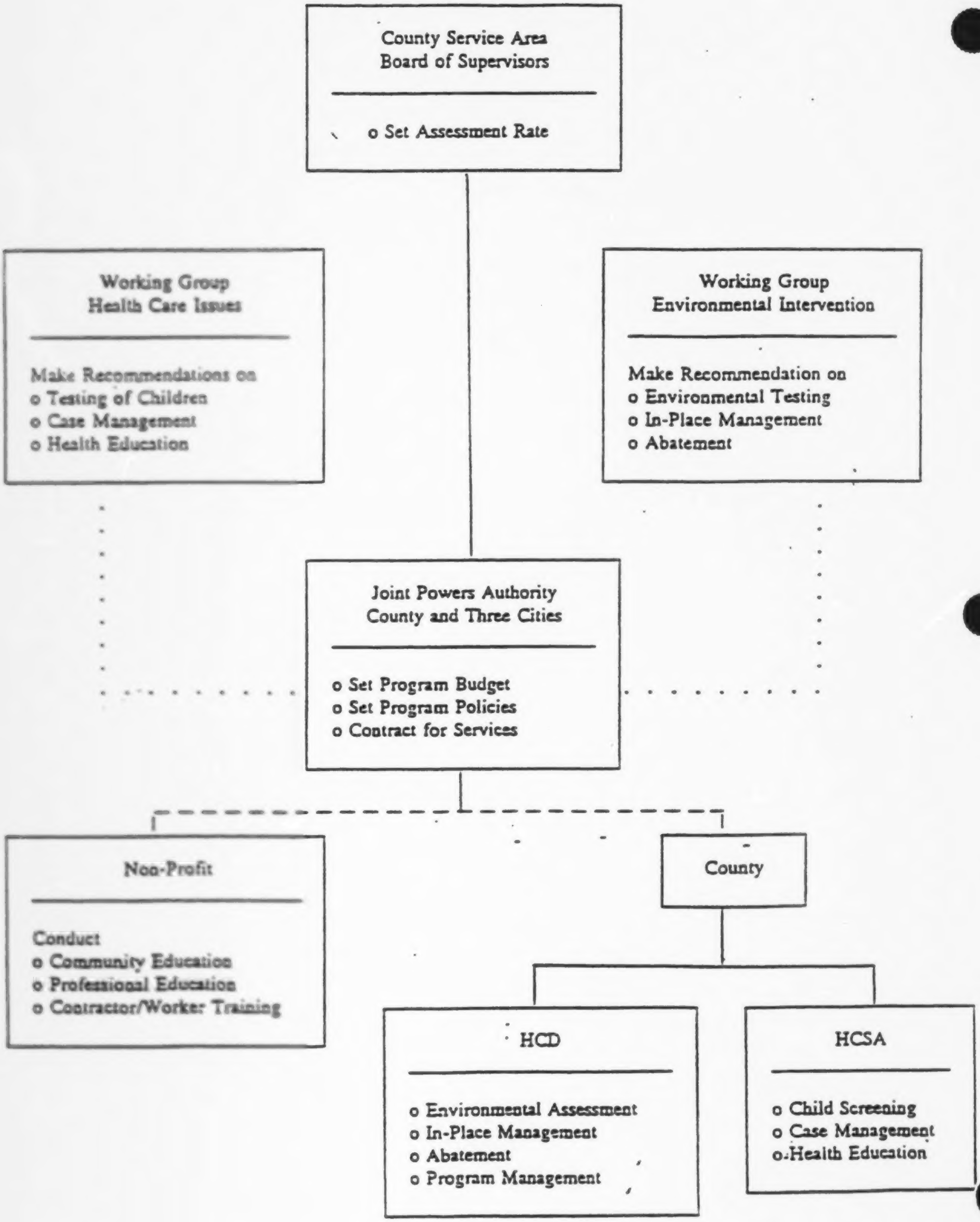
The JPA will initially contract with a non-profit and the County to provide program services. The Non-Profit, which is an addition to the August 1991 program organization, will provide community education, professional training, and contractor/construction worker training. In the earlier program plan, community education was proposed to be carried out by Housing and Community Development (HCD) and Health Care Services Agency (HCSA) staff. Professional education was to be done by a combination of County staff and other organizations such as U.C. Extension. Contractor/construction worker training was to be carried out by U.C. Extension and labor unions. However, over the last four months a number of things have become evident. First, as the program has been presented to a variety of audiences and after consultation with those carrying out education in other states, the time consuming nature and need for involvement of community representatives in educational efforts is apparent. Further, the need for professional education, not just in medical and housing fields, but in related fields such as child care, banking, insurance, and property management has emerged as an important need. And thirdly, after conducting one contractor training, it is clear that such training can be a profitable venture and that U.C. Extension might not be the best organization to carry out all abatement training, particularly training for contractors and workers.

Pulling the three educational needs together into one non-profit organization capitalizes on the interplay between the different yet related educational needs. Additionally, it allows activities that can more than support themselves financially to supplement those that cannot. And further, an independent non-profit allows for the leveraging of JPA funds, through training generated revenues, other governmental grants, and foundation funding.

5. Contract Services: Alameda County

As outlined in the August 1991 program plan, other goals of the Alameda County Lead Abatement Program will initially be achieved through a contract between the JPA and the County which will provide services through a partnership of the HCD Program and the HCSA. In broad terms, HCD will take the lead on delivery of services which intervene in environments which are or may be poisoning individuals. This includes environmental assessment, abatement, and the in-place containment or management of hazards. HCS will coordinate efforts which affect the health care received by individuals who are or may be poisoned. This includes screening, medical treatment, and case management. To facilitate coordination between the two agencies and insure a clear relationship with the joint powers authority, HCD will take the lead on issues relating to administration, data management, financing, marketing, public relations, and legislation. HCS has identified a management position to coordinate the activities of the various agencies within HCS.

PROGRAM MANAGEMENT


County Service Area
Board of Supervisors
o Set Assessment Rate
Working Group
Health Care Issues
Make Recommendations on
o Testing of Children
o Case Management
o Health Education
Working Group
Environmental Intervention
Make Recommendation on
o Environmental Testing
o In-Place Management
o Abatement
Joint Powers Authority
County and Three Cities
o Set Program Budget
o Set Program Policies
o Contract for Services
Non-Profit
Conduct
o Community Education
o Professional Education
o Contractor/Worker Training
County
HCD
o Environmental Assessment
o In-Place Management
o Abatement
o Program Management
HCSA
o Child Screening
o Case Management
o Health Education

PROGRAM START-UP ACTIVITIES (January 1, 1992 - June 30, 1992)

In order to prepare for the initiation of program services and in order to keep pace with events impacting the long range goals of the program, a number of activities will take place in the six-month period prior to July 1, 1992. Each of these activities is described below and summarized in Table 2.

1. Develop Working Groups Recommendations

The Health Working Group (HWG), composed of professionals appointed by the Director of Health Care Services Agency and the Planning Director, first met on December 4, 1991. Over the next six months, the HWG will develop recommendations in the following areas: 1) appropriate response to various blood lead levels; 2) laboratory accreditation and reporting; 3) data collection and management; and 4) primary prevention.

The Environmental Intervention Working Group (EIWG), composed of professionals appointed by the Director of Health Care Services Agency and the Planning Director, will hold its first meeting in January, 1992. Over the next six months, the EIWG will prepare recommendations on hazard assessment technologies, including the direct read XRF and spectrum analyzer, on abatement strategies, and on in-place management protocols for the purpose of aiding primary prevention activities.

2. Establish Non-Profit Organization: Conduct Trainings

In pursuing the development of an educational, training, and financial non-profit, timing is critical. Currently, there are no other lead training organizations focused on contractors and workers in California. With the increased awareness of the lead problem and demand for solutions, that situation will change rapidly. If the non-profit as outlined above is to capture a significant segment of the training market, then it must act quickly and decisively to offer quality and appropriate training. Further, resources for community education will be needed immediately upon the initiation of the full lead abatement program in July.

To this end, a non-profit will be formally established in January with completion of incorporation and recruitment of Board members, including representatives from real estate, property management, construction, insurance, and banking industries as well as community organizations. In late January, the non-profit will hold a contractor/construction worker training and continue with at least one per month through June.

3. Complete Pilot Abatement Projects

The Housing and Community Development (HCD) Program currently administers a housing rehabilitation program in several cities and the urban county. As a result of increasing awareness on the part of program staff and regulation on the part of HUD, housing rehabilitation projects have begun to include assessment and abatement of lead hazards. Currently the County is working on a project to abate lead based paint and lead contaminated soil in and around a single family detached house. As a result of this project County staff has gained a more thorough understanding of the management of a lead abatement project. County staff anticipates completion of at least one additional abatement project before July.

4. Establish Joint Powers Authority

Starting in January, meetings will be held with the cities of Alameda, Berkeley and Oakland to work out the details of the Joint Powers Authority and execute the formal agreements. This process is scheduled to be completed by March.

5. Initiate Position Approval and Classification Process

To have program staff on board for the July 1, 1992 start-up of the Lead Abatement Program, requests for additional staffing positions will be presented to the Board in late January. This will allow sufficient time for classification and hiring.

6. Set Policy on Unincorporated County Assessments

In response to the Board of Supervisors action on December 10, 1991, staff will present the Board with a recommended policy on assessments in the unincorporated county. Actual assessment rates for all areas of the CSA will be adopted in June, 1992.

7. Submit Federal Funding Applications

The Centers for Disease Control will soon release a Request for Proposals for categorical grants for the enhancement of state and local screening programs and case management. County staff will work with State Department of Health Services staff to submit an application.

Lead Abatement Program staff have been in communication with staff at the Agency for Toxic Substances and Disease Registry to discuss the funding of research projects in Alameda County. Such a proposal would incorporate the research faculties of local academic institutions with whom County staff has been in contact.

Congress has authorized $50 million for competitive demonstration grants to local agencies for lead based paint abatement in private housing. HUD expects to release a Notice of Funding Availability in April of 1992.

8. Establish First Year Program Budget

By May, the Joint Powers Authority will need to approve a budget for the first year of the program.

9. Set First-Year CSA Assessment Rates

In June, the Board of Supervisors will be asked to set assessment rates for this program based upon the budget the JPA has adopted.

Table 1

PROGRAM START-UP ACTIVITIES
January 1, 1992 - June 30, 1992

DATE	OBJECTIVE	ACTION	STAFF
January - June	1A. Develop Health Working Group Recommendations	HWG meetings	HCD/HCS
January - June	1B. Develop Environmental Intervention Working Group Recommendations	EIWG meetings	HCD
January - June	2. Establish Non-Profit Organization; Conduct Trainings	Board Approval; Incorporate;	HCD
January - June	3. Complete Pilot Abatement Projects	Complete First Project; Identify and Complete Second Project	HCD
January - March	4. Establish Joint Powers Authority	Meet with Cities; Board and Cities' Approval of JPA; Appoint County Representative	HCD
January	5. Initiate Position Approval and Classification Process	Board Approval	HCD/HCS
February	6. Set Policy on Unincorporated County Assessments	Board Approval	HCD
April	7. Submit Federal Funding Applications	Board Approval; Prepare Grant Proposals for CDC & HUD	HCD/HCS
May	8. Establish First Year Budget	JPA Approval	HCD/HCS
June	9. Set First Year CSA Assessment Rates	Board Approval	HCD

FIRST YEAR (July 1, 1992 - June 30, 1993) ACTION PLAN

For each of the eight major program functions outlined in the August 1991 report, first year activities, goals, budget, responsible organization, staffing, and comments are described below and summarized in Table 1 (see page 8).

1. Community Education

Function: One of the most important functions of the Lead Abatement Program will be education. This includes specific services for individual property owners and broader outreach to targeted communities within the County Service Area. Educational program will be useful both as secondary prevention for the families of lead poisoned children and adults and for primary prevention to help prevent individuals from being poisoned in the first place.

The program will target parents and children. Parents need information about the steps which they can take to minimize the risk to their children. They also need to know how and where to have their children tested. Young children can be taught to avoid hazards. Education through the schools can teach older children, who often serve as care providers for younger siblings, to watch the hand to mouth activities of younger children and about the importance of proper hygiene.

Activities: Program activities will include a hot line, the development of outreach materials, presentations to community groups, mailings and television and radio public service announcements.

Goals: The goals for this part of the program include a community-wide outreach campaign in the county service area, and contacts with sixty thousand individual property owners, by phone, in person and through mailings.

Budget: The projected budget for this effort is $180,000 which includes partial-salaries, partial start-up costs for the non-profit, salaries for part of two outreach workers positions, and the cost of developing production and distribution of materials.

Responsibility: The non-profit will be responsible for community-wide education. HCS will have lead responsibility for educational intervention with the family of a poisoned individual. HCD will staff the hot line and handle contacts with property owners and residents seeking information about the assessment and abatement of their properties.

Staffing: Consultant to non-profit, two outreach workers.

Comments: The creation of a non-profit represents a change from the original Lead Abatement Plan. Input from other programs nationwide, and from the staff of the State Department of Health Services has revealed several functions which a non-profit would be ideal to serve. One such function is community education. As an independent agency, the non-profit will be able to facilitate a dialogue with the community which will improve the effectiveness of informational material. In addition, the Board of the non-profit will bring together the various sectors of the community upon whose support the success of [illegible] program will depend. Such a forum will produce a better understanding of possible obstacles to [illegible] implementation of the program. A non-profit organization will also have the ability to participate in fund-raising activities for which a public agency might not be eligible.

2. Outreach to Health Care Professionals

Function: The program will provide outreach to health care professionals and establish training programs for contractors and workers. Even within the health care community there are varying levels of understanding of the problem of lead poisoning. Medical schools have traditionally shared the bias that lead poisoning is only a problem on the East Coast. Studies by HUD and the California Department of Health Services have convincingly established the existence of a problem in California, but that information has spread slowly to individual service providers. Many questions still remain about proper testing protocols, lab work, follow-up and billing. Some of that information is specific to Alameda County.

Activities: The Lead Abatement Program will provide basic information to pediatricians, family practitioners and general practitioners about screening and follow-up and has begun to develop a county-specific protocol for that purpose based upon the CDC guidelines and the California Department of Health Services protocol. Seminars hosted by lead abatement staff will target county personnel and the staff in county sponsored clinics.

Goals: One lead poisoning seminar for health professionals every two months with twenty participants [illegible] reach 80 providers.

Budget: The $30,000 budget will include partial salary for one public health nurse.

Responsibility: HCSA will host trainings for health care service providers.

Staffing: Partial salary for public health nurse.

3. Professional Education for Contractors

Function: Contractors, supervisors and workers need programs which can provide training in abatement methods, containment of dust, and worker protection. The improper handling of lead based paint poses a significant and immediate public health threat. Numerous lead poisoning cases have resulted from the renovations of older housing. The sanding of lead based paint is especially dangerous, yet this remains a common method of surface preparation before repainting.

Activities: The need for appropriately trained contractors is so urgent, that Housing and Community Development has already co-hosted one lead abatement course which provided training to 25 participants. HCD will co-host another course in January.

Goals: One abatement course per month for ten months will result in the training of 250 contractors supervisors and workers.

Budget: $60,000 will cover partial start-up costs for non-profit.

Responsibilities: The non-profit will host trainings for contractors, workers and supervisors.

Staffing: Non-profit staff.

4. Referral for Blood-Lead Screening and Medical Treatment

Function: For the most part, the Lead Abatement Program will not be responsible for the screening of children. This will be carried out by state supported programs and private practitioners. The State of California recently settled a lawsuit (Matthews vs. Cove) brought by a coalition of community groups which charged that the Department of Health Services has failed to comply with federal mandates for the screening of children for lead poisoning. As a result, both Medi-Cal and CHDP (Child Health and Disability Prevention Program) will now reimburse providers for the costs of phlebotomy and lab analysis. Legislation recently signed by the Governor also requires that third-party payors (insurance companies and HMOs) cover screening costs for their members.

CHDP and Medi-Cal currently enroll approximately 25 percent of those eligible in this State. One of the goals of the Lead Abatement Program will be to increase the enrollment of Alameda County residents in programs which screen for lead poisoning. The program will also seek to increase screening activities among private practitioners.

The Centers for Disease Control recommend chelation therapy for children with blood lead levels over 45 ug/dl. Children's Hospital has already established a lead-poisoning clinic and providers will be encouraged to refer patients there.

Activities: The Lead Abatement Program will link its outreach efforts with those of the CHDP program, Healthy Start, and other child wellness programs. Outreach to medical providers will highlight the need for screening.

Goals: Increased enrollment in State programs and expanded screening within the private sectors will result in 2,500 additional blood lead screenings using 1989 as a baseline year. Because the program will seek to enroll children who otherwise would go without health care, the benefits will extend beyond lead poisoning prevention.

Budget: The $30,000 budget will cover salaries and outreach costs.

Responsibility: HCSA

Staffing: Partial salary for outreach worker, partial salary for public health nurse.

Comments: The initial program budget called for the same level of resources to be expended for referrals as for case management. Because the County will probably play a greater role in the management of lead poisoning cases than in screening efforts, these levels have been revised and resources have been shifted to support the case management functions of HCS.

5. Case Management and Monitoring

Function: Individuals who have been poisoned must be re-screened and may require medical treatment and environmental intervention. Case managers will also coordinate education of the family of a poisoned individual and will compile a detailed case history to investigate the possibility of high-dose exposures. The coordination of these activities should be handled by a single case management mechanism. Traditional case management systems nationally have suffered from a focus on re-screening and education with little or no environmental intervention. The County program will utilize a team approach involving public health nurses, sanitarians, housing rehabilitation specialists and community outreach workers.

Activities: The case management team will monitor poisoned individuals to insure that they are re-screened, to coordinate environmental intervention and to insure that chelation therapy is available when appropriate. The case management team will also supervise education of the family and arrange an interview to compile a case history.

Goals: Manage 240 cases.

Budget: $150,000 for partial salaries.

Responsibility: HCSA

Staffing: One public health nurse. Partial salaries for one sanitarian, one housing rehabilitation specialist, and two outreach workers.

6. Environmental Screening

Function: Environmental screening will look for potential sources of poisoning in the paint, dust, soil, water and pottery using wet lab analysis and x-ray florescence.

Activities: After reviewing the case for obvious sources, a home investigation will be conducted. Samples will either be taken for wet lab analysis, or an XRF machine will be used to check for lead levels.

Goals: A target of 850 dwelling units should meet the need for the follow-up of poisoning cases and allow for targeted assessments in high risk neighborhoods. This will provide important information for the allocation of future resources.

Budget: Environmental assessment costs are approximately $600 per dwelling unit for equipment and staff time.

Responsibility: HCD/HCSA

Staffing: Currently, a report of a blood lead level over 25 ug/dl triggers a home visit by a sanitarian and a housing rehabilitation specialist. These individuals have been trained to identify the sources of poisoning. The need for home investigations, however, is quickly outpacing the capacity of County staff. A contract with a private firm would allow access to an XRF machine and increase capacity. This can also be accomplished in a timely fashion. Changing technologies may soon make current machines obsolete.

7. Environmental Lead Abatement, Monitoring and Assistance with In- Place Management

Function: The program will abate lead in the dwellings of Service Area residents in response to poisoning cases and in areas with historically high incidence of poisoning. Those projects will be monitored and the results used to reevaluate standards and policies. In many cases, abatement will either be unnecessary or financially unfeasible. In these cases, families will be advised about methods for the in-place management of hazards. While these activities will not provide permanent solutions to the problem, they can prevent the poisoning or repoisoning of individuals.

Activities: After environmental assessments have been completed, housing rehabilitation specialists will develop a scope of work and aid a family in the selection of a contractor. Based upon the need of the property owner, the program will make financing for abatement available. Wherever possible, abatement projects will seek to improve the quality and livability of the County's housing stock. Projects will be monitored and results will be used to refine abatement techniques.

Goals: The program will gain momentum over time. Funding for the first year will cover costs for the abatement of 50 dwelling units in the Service Area in the first year.

Budget: Cost will average $27,000 per house for the first year of the program. $1,350,000 will finance abatement in 50 dwelling units.

Responsibility: HCD will supervise abatement efforts.

Staffing: Two housing rehabilitation specialists.

8. Management/Administration

Function: Effective management will lead to an efficient use of resources and will be required to comply with state reporting mandates.

Activities: Program administration and management will include staff support for the Joint Powers Authority and the responsibility of reporting to the Board of Supervisors. Bookkeeping and accounting functions will need to be augmented to handle the dispersal of assessment funds. The program management will need to keep accurate records of units and individuals participating in the program. This data management will aid in the evaluation of the program and in the targeting of resources. Accurate data management can also insure appropriate follow-up and in the case of abated dwelling units, will be required by law. Public relations, especially communication with the press. Centralized management will also aid in the development of a legislative agenda which can impact the development of necessary regulations and position the program favorably to compete for State and Federal grants.

Goals: Staff support for JPA. Successful competition for Federal grants.

Budget: $150,000 is roughly six percent of total program expenditures.

Responsibility: HCD

Staffing: Two administrative assistants. One HCDS, one HCS management services position.

Comments: The experience of other programs nationwide point to the need for a central administrative unit. This will insure fiscal accountability and accurate data management and the confusion on the part of non-county agencies that mixed messages would cause.

Table 2

Alameda County Lead Abatement Program

FIRST-YEAR (July 1, 1992 - June 30, 1993) ACTION PLAN

FUNCTION	RESPONSIBILITY[1]	RESULTS	BUDGET
1. Community Education, Outreach to Property Owners	**Non-Profit, HCD** Outreach Workers	60,000 Households Reached	$180,000
2. Outreach to Health Care Professionals	HCSA - Public Health Nurse	Seminars for 80 Service Providers	$30,000
3. Professional Education for Contractors	Non-Profit - Trainer	250 Contractors	$60,000
4. Referral for Blood-Lead Screening and Medical Treatment	HCSA - Outreach Worker	2,500 Blood Screenings	$30,000
5. Case Management and Monitoring	HCSA - Public Health Nurse	250 Cases	$150,000
6. Environmental Screening	HCD, HCSA - Rehab. Spec., Sanitarian	850 Dwelling Units	$500,000
7. Environmental Lead In-Place Management, Abatement, and Monitoring	**HCD** - Rehab. Spec.	50 Dwelling Units	$1,350,000
8. Manage/Administration	**HCD** - Administrative Unit	Staff Support for JPA; Access Supplemental Funds	$150,000
TOTAL			$2,450,000

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[1] Bold indicates lead responsibility

FIRST YEAR (July 1, 1992 through June 30, 1993) BUDGET

The Lead Abatement Program will be funded through the County Service Area benefit assessment on pre-1978 houses. Projected revenues from an assessment of $10 per pre-1978 housing unit are $2,450,000, after consideration for delinquincies and collection costs. The revenues will be received as a part of the regular property tax collections.

Under the current proposed budget, which will have to be approved by the JPA as well as the Board of Supervisors, the Planning Department HCD Program will receive approximately $1.98 million, HCSA will receive $340,000, and the non-profit will receive $130,000 based upon the budget allocation along function lines and division of responsibilities as stated in the previous section. In terms of staffing, a total of ten positions will be added, five positions in HCD and five in HCSA.

As noted under "Start-Up Activities", above, the Lead Abatement Program will aggressively seek available federal funding to increase the scale of the activities that will be undertaken in the first year. However, since there are no current commitments, federal grant funds are not included in the budget projections and allocations presented in this Implementation Plan.

Current start-up activities (those that will take place prior to July 1, 1992) are being covered from current Planning Department and HCSA funding.

Planning Worksheet

Goal: ____

____

ACTION STEPS	DEADLINE	PERSON RESPONSIBLE	BUDGET

LET'S GET THE LEAD OUT

Please complete the following items in your planning activity.

1. What goals do you propose?

2. Which goal do you choose to work on first?

3. What activities do you propose to reach the goal?

4. What are the first steps that should be taken?

5. Who should be involved in the activities? (Who else needs to be invited to help?)

6. What information do you need?

7. Other?

TITLE: Biweekly Nursing Update (and tally sheet used to compile update)

SOURCE: Milwaukee Health Department

Who uses this material?

Nursing coordinator presents to program staff at team meeting.

What is the purpose of the material?

To monitor current status of workload in the program.

How is the material used in the program operation?

Used to identify/monitor where staff should focus their efforts to reduce backloop.

How and why was the material developed?

A need was seen to be able to monitor intake and output more closely to prevent delays in processing.

Based on evaluations are there any plans for modification of the materials?

Reports are modified as procedures change or a need is seen to monitor a different activity in the program revised 1/94.

Recommendations for modifying or improving the material:

No (attached tally sheets assist staff in reporting intake and output and activities all totaled biweekly)

MILWAUKEE HEALTH DEPARTMENT CHILDHOOD LEAD POISONING PREVENTION PROGRAM

Biweekly Nursing Update
From ______ To ______

MHD LABS

Intake:	______	
Backlog:	20-24	25+
New	______	______
Rb	______	______

PMD LABS

Intake:	______	
Backlog:	20-24	25+
New	______	______
Rb	______	______

TOTAL BACKLOG: ______

LAB SHEETS MISSING INFO:
DAMON : ______
METPATH: ______
S.B.C.L: ______

TOTAL : ______

REFERRALS FROM CLERICAL

Outreach: New ______ Rb ______
DN : New ______ Rb ______
EH : ______
Stellar Entry : New ______ Rb ______

OUTREACH
Backlog: ________

PARENT LETTERS SENT

0-9	10-19	20-24(New)	20-24(Rb)	Backlog
______	______	______	______	______

ENVIRONMENTAL REPORTS

	H944's	Orders	Orders Closed	Address Changes
Backlog:	______	______	______	______
Intake:	______	______	______	______
Processed:	______	______	______	______

PMD letters Sent: ______

CLASS IV RESULTS RECEIVED: ______
CHELATIONS INITIATED: ______
DUPLICATE LAB REPORTS RECEIVED: ______
REFERRALS TO EH BY COORDINATORS: ______
REFERRALS TO EH BY OUTREACH: ______
REFERRALS TO BI BY OUTREACH: ______
REFERRALS TO DN BY OUTREACH: ______
I.E.'s FROM D.N.'s : ______ PROCESSED: ______ BACKLOG: ______

01/18/94

Coordinator Tallying - Output

	LEAD REFERRALS					Info Exch.	EH REPORTS				LEAD RESULTANT ENTERE IN STR	
	Ref→OR		Ref→DN		Ref→EH.	(IE'S)	N94N	ORDERS	DELEADED/ ORDERS CLOSED	PMD		
	New	Rb	New	Rb.		Processed.					NEW	R

BEST COPY AVAILABLE

TITLE: Quarterly Report

SOURCE: Milwaukee Health Department

Who uses this material?

All lead program staff, lead task force reporting referral sources, MHD administration.

What is the purpose of the material?

To report lead screening done in Milwaukee during a specific quarter.

How is the material used in the program operation?

To assess staffing needs, to predict seasonal variations and patterns, to quantify the incidence of lead poisoning.

How and why was the material developed?

Developed by MHD lead program staff to document lead levels being reported.

Based on evaluations are there any plans for modification of the materials?

Yes

Recommendations for modifying or improving the material:

We are currently modifying the report to delete individual referral sources under Private Hospital/Laboratory and will report as one source. We are adding some other items that we feel will reflect activities of our program more clearly. (See "Biweekly Report")

LEAD POISONING PREVENTION PROGRAM (ADAPTED NEW CLASSIFICATIONS)
ACTIVITY REPORT 1993 -- FOURTH QUARTER (10/01/93 -12/31/93) FINAL
HEALTH DEPARTMENT LABORATORY ONLY

REFERRAL SOURCE	TOTAL		CLASS I		CLASS IIA		CLASS IIB		CLASS IIIA		CLASS IIIB		CLASS IV		CLASS V		% NEW CASE FIND	% NEW CASE FIND
	Pb Level		0 - 9		10 - 14		15 - 19		20 - 24		25 - 44		45 - 69		>69		Pb > 19	Pb > 24
	New	Rebl	New	Rebl	New	Rebl	New	Rebl	New	Rebl	New	Rebl	New	Rebl	New	Rebl		
16th St. CHC	156	154	123	82	18	34	9	15	5	11	1	9	0	3	0	0	3.8%	0.6%
Child Health Cl	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0.0%	0.0%
Metcalf Clinic	12	2	7	0	3	0	0	1	2	1	0	0	0	0	0	0	16.7%	0.0%
Day Care Center	74	6	67	4	3	1	3	1	0	0	1	0	0	0	0	0	1.4%	1.4%
Downtown H.C.	301	195	159	35	73	25	46	56	15	19	8	55	0	4	0	1	7.6%	2.7%
Family Health C	121	16	89	8	23	7	6	1	2	0	1	0	0	0	0	0	2.5%	0.8%
Head Start	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ERR	ERR
Outrach/Home Draw	9	18	0	0	3	1	2	3	2	4	2	10	0	0	0	0	44.4%	22.2%
I. Coggs PCC	42	17	19	4	7	0	6	2	7	6	3	5	0	0	0	0	23.8%	7.1%
Refugee Program	9	0	6	0	2	0	1	0	0	0	0	0	0	0	0	0	0.0%	0.0%
WIC/MHD	535	60	330	29	98	11	51	11	33	3	23	6	0	0	0	0	10.5%	4.3%
Walk-In Sites	0	2	0	0	0	1	0	0	0	1	0	0	0	0	0	0	ERR	ERR
TOTALS	1260	471	801	162	230	80	124	90	66	45	39	86	0	7	0	1	8.3%	3.1%
			64%	34%	18%	17%	10%	19%	5%	10%	3%	18%	0%	1%	0%	0%		

TOTAL 1260 INITIAL SCREENING
105 NEW CASES (Pb>19] 39 NEW CASES [PB>24]

Public Health Nursing Visits to Lead Poisoned Children= 1,380 (90% made to children 1-5 yrs.)

PRIVATE HOSPITAL/LABORATORY

REFERRAL SOURCE	TOTAL		CLASS I		CLASS IIA		CLASS IIB		CLASS IIIA		CLASS IIIB		CLASS IV		CLASS V	
	New	Rebl	New	Rebl	New	Rebl	New	Rebl	New	Rebl	New	Rebl	New	Rebl	New	Rebl
Milw Ind H Bd	10	42	0	3	2	1	1	7	4	11	3	18	0	2	0	0
Private MD	551	554	14	34	183	100	139	114	125	110	82	181	8	15	0	0
Northpoint Med	10	6	0	0	1	2	5	2	3	0	1	2	0	0	0	0
SSMC - Peds	27	18	0	0	16	6	11	8	0	1	0	3	0	0	0	0
SSMC - Fam CC	2	12	0	2	0	1	1	2	0	1	1	5	0	1	0	0
CHOW	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
St. Luke's FPC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
St. Mary Fam P	35	54	0	1	21	20	6	13	3	9	5	11	0	0	0	0
St. Michael's FCC	0	2	0	0	0	1	0	0	0	1	0	0	0	0	0	0
Teen Pregnancy	32	23	0	1	15	5	6	4	5	3	3	5	2	4	1	1
MCMC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Johnston PCC	3	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0
Columbia FCC	28	22	0	1	16	7	7	5	2	4	3	5	0	0	0	0
Family Hlth Plan	9	9	0	1	4	1	3	3	1	2	1	1	0	1	0	0
TOTALS Reported	707	744	15	44	258	144	179	159	143	142	101	231	10	23	1	1

TOTAL: 3,613 INITIAL SCREENINGS (EST.)
255 NEW CASES [PB>19] 112 NEW CASES [PB>24]

GRAND TOTAL INITIAL SCREENINGS: 4,873(reported and estimated)
GRAND TOTAL NEW CASES: 360 NEW CASES [PB>19] 151 NEW CASES [PB>24] 02/25/94
All totals reflect incomplete screening data; reported cases only.

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TITLE: Annual Report

SOURCE: Milwaukee Health Department

Who uses this material?

Lead Program staff, Lead task force, reporting referral sources, MHD administration, whoever requests statistics.

What is the purpose of the material?

To consolidate data from quarterly reports.

How is the material used in the program operation?

To predict staffing and supply needs to reflect current status of lead poisoning in Milwaukee.

How and why was the material developed?

To report program activities and to demonstrate lead levels reported.

Based on evaluations are there any plans for modification of the materials?

Yes

Recommendations for modifying or improving the material:

Will be adapted to correspond with changes being made in quarterly report.

LEAD POISONING PREVENTION PROGRAM (ADAPTED NEW CLASSIFICATIONS)
ACTIVITY REPORT 1993 -- ANNUAL REPORT (01/01/93 - 12/31/93)
HEALTH DEPARTMENT LABORATORY ONLY

REFERRAL SOURCE	TOTAL		CLASS I		CLASS IIA		CLASS IIB		CLASS IIIA		CLASS IIIB		CLASS IV		CLASS V		% NEW CASE FIND	% NEW CASE FIND
	Pb Level		0 - 9		10 - 14		15 - 19		20 - 24		25 - 44		45 - 69		)69			
	New	Rebl	New	Rebl	New	Rebl	New	Rebl	New	Rebl	New	Rebl	New	Rebl	New	Rebl	Pb) 19	Pb) 24
16th St. CHC	798	755	601	404	130	181	39	79	20	36	7	46	1	9	0	0	3.5%	1.0%
Child Health Cl	137	67	107	43	20	15	7	5	1	0	2	4	0	0	0	0	2.2%	1.5%
Metcalf Clinic	39	2	14	0	14	0	3	1	2	1	5	0	1	0	0	0	20.5%	15.4%
Day Care Center	400	79	327	61	43	8	22	6	7	3	1	1	0	0	0	0	2.0%	0.3%
Downtown H.C.	1243	992	653	205	289	177	171	199	83	110	42	281	5	19	0	1	10.5%	3.8%
Family Health C	658	93	489	58	96	22	29	7	21	3	22	3	1	0	0	0	6.7%	3.5%
Head Start	754	172	426	67	202	46	81	37	33	16	11	5	1	1	0	0	6.0%	1.6%
Outrach/Home Draw	30	46	5	1	7	3	7	13	5	10	6	19	0	0	0	0	36.7%	20.0%
I. Coggs PCC	207	119	89	18	42	20	32	28	24	15	20	36	0	2	0	0	21.3%	9.7%
Refugee Program	55	0	27	0	11	0	15	0	0	0	2	0	0	0	0	0	3.6%	3.6%
WIC/MHD	2404	187	1476	86	442	36	250	32	135	15	97	18	4	0	0	0	9.8%	4.2%
Walk-In Sites	0	2	0	0	0	1	0	0	0	1	0	0	0	0	0	0	ERR	ERR
TOTALS	6725	2514	4214	943	1296	509	656	407	331	210	215	413	13	31	0	1	8.3%	3.4%
			63%	38%	19%	20%	10%	16%	5%	8%	3%	16%	0%	1%	0%	0%		

TOTAL 6725 INITIAL SCREENING
559 NEW CASES (Pb)19] 228 NEW CASES (PB)24]

Public Health Nursing Visits to Lead Poisoned Children= 5,978* ([illegible]% made to children 1-5 yrs.)

PRIVATE HOSPITAL LABORATORY

REFERRAL SOURCE	TOTAL		CLASS I		CLASS IIA		CLASS IIB		CLASS IIIA		CLASS IIIB		CLASS IV		CLASS V	
	New	Rebl	New	Rebl	New	Rebl	New	Rebl	New	Rebl	New	Rebl	New	Rebl	New	Rebl
Milw Ind H Bd	66	140	1	14	4	11	1	19	23	35	34	52	3	9	0	0
Private MD	2082	1965	47	118	600	299	402	352	534	444	459	694	34	55	6	3
Northpoint Med	48	23	1	0	22	6	17	7	6	7	2	3	0	0	0	0
SSMC - Peds	73	64	0	2	29	11	24	21	14	10	6	20	0	0	0	0
SSMC - Fam CC	11	49	0	3	0	5	2	8	1	5	8	27	0	1	0	0
CHOW	1	9	0	1	0	0	0	1	1	3	0	2	0	2	0	0
St. Luke's FPC	1	15	0	4	0	0	0	3	0	1	0	7	1	0	0	0
St. Mary Fam P	149	137	0	3	79	42	38	46	19	24	11	20	2	2	0	0
St. Michael's FCC	11	14	1	0	5	2	2	1	3	7	0	4	0	0	0	0
Teen Pregnancy	82	64	0	1	33	10	13	9	14	10	17	27	3	5	2	2
MCMC	1	2	0	0	0	0	1	2	0	0	0	0	0	0	0	0
Johnston PCC	8	8	1	1	1	1	1	0	2	3	3	3	0	0	0	0
Columbia FCC	80	61	0	1	46	17	21	15	6	12	7	16	0	0	0	0
Family Hlth Plan	40	34	2	1	17	3	12	8	4	8	5	12	0	2	0	0
TOTALS Reported	2653	2585	53	149	836	407	534	492	627	569	552	887	43	76	8	5

TOTAL: 17,479 INITIAL SCREENINGS (EST.)
1230 NEW CASES (PB)19] 603 NEW CASES (PB)24]

GRAND TOTAL INITIAL SCREENINGS: 24,204(reported)
GRAND TOTAL NEW CASES:1789 NEW CASES (PB)19] 831 NEW CASES (PB)24] 02/25/94
All totals reflect incomplete screening data; reported cases only.

* Total reflects additional visits reported after quarterly reports were completed.

TITLE OF MATERIAL: Program Descriptive Information

USE OF MATERIAL: It has been suggested that programs should compile a notebook of their own forms and materials and evaluate them. This form would be used by programs to critique forms and materials that they are already using.

SOURCE: Joan Cook Luckhardt, P.h.D

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PROGRAM DESCRIPTIVE INFORMATION

TITLE OF MATERIAL:

DESCRIPTION:

INTENDED AUDIENCE:

LIMITATIONS OF THE MATERIAL:

AGENCY:

CONTACT PERSON:

NOTES:

TITLE: Lead Program outreach worker Home visiting record for supervision.

Who uses this material?

Lead program nursing coordinators and supervisor.

What is the purpose of the material?

Evaluate outreach workers home visiting techniques and abilities.

How is the material used in the program operation?

More objective way to evaluate home visit of outreach worker and use in employee record.

How and why was the material developed?

To have record of skills, abilities and recommendations for outreach worker.

Based on evaluations are there any plans for modification of the materials?

No

Recommendations for modifying or improving the material:

Milwaukee Health Department
Bureau of Public Health Services

Supervisor's Record for Supervision

Lead Program
Outreach Worker Home Visiting

Name: ______________________ Classification ______________________ Empl. Date ______________

Date - Time Type*	Record observation of employee's performance & supervision given, including methods of instruction used. Full signature - initial thereafter.	Observation			Plan: Indicate future obsv. & instr. to be implemented. (✓ & date when completed).
		Yes	No	N.A.	
	Preplanning Activities				
	1. Selects appropriate cases for visits in order of priority				
	2. Preplans visits in organized manner; priorities; order of travel				
	3. Necessary forms, equipment and literature gathered				
	4. Appointments made as possible				
	Home Visits:				
	1. Introduces self, purpose of home visit and activities to be done, receiving client's consent				
	2. Interview is organized				
	3. Communication skills evident and able to relay information at client's level of understanding				
	4. Remains flexible, adjusting to client/family needs				
	5. Appropriate teaching done about lead poisoning including sources, prevention and behaviors				
	6. Good knowledge base evident				
	7. Medical care discussed including follow-up for child and screening for siblings				
	8. Counseling/teaching is logical, simple, brief and client/patient focused				

*Type - Home Visit, Clinic, Child Health Conference, School, Instruction

MHD/BPHS
5/93

NB-604

Milwaukee Health Department
Bureau of Public Health Services

Supervisor's Record for Supervision

Lead Program
Outreach Worker Home Visiting

Name: ______ Classification ______ Empl. Date ______

Date - Time Type*	Record observation of employee's performance & supervision given, including methods of instruction used. Full signature - initial thereafter.	Observation Yes	Observation No	Observation N.A.	Plan: Indicate future obsv. & instr. to be implemented. (✓ & date when completed).
	Home Visits cont'd				
	9. Survey of the immediate environment completed in an organized manner				
	10. Appropriate teaching and demonstration of simple clean-up and remediation of obvious lead hazards completed				
	11. Counseling/teaching reinforced with demonstration, literature and summary				
	Follow-up				
	1. Follow-up plans discussed with parent including outreach worker follow-up and recommended medical follow-up				
	2. Refer obvious evidence of lead hazards to Environmental Health or other home hazards to Building Inspection				
	3. Refer cases to Public Health Nurse as necessary after discussion with coordinator and/or supervisor				
	Recording/Documentation				
	1. Recording completed as per guidelines for outreach workers including clearness, conciseness, and follow-up plan				

ilwaukee Health Department
reau of Public Health Services

Supervisor's Record for Supervision Lead Program Outreach Worker Home Visiting

Name: ______ Classification ______ Empl. Date ______

Date - Time Type*	Record observation of employee's performance & supervision given, including methods of instruction used. Full signature - initial thereafter.	Observation			Plan: Indicate future obsv. & instr. to be implemented. (✓ & date when completed).
	Home Visits cont'd	Yes	No	N.A.	
	2. Record filed appropriately as per outreach record system				

MHD/BPHS
5/93

NB-604

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PROTOCOLS / PROCEDURES / SPECIFICATIONS

Preventing Lead Poisoning in Young Children--Critique

1. The Centers for Disease Control (CDC) statement is used by program staff, private clinicians and policy makers. For policy makers the statement is a useful guide to the science underlying decision making. Program staff can find not only a description of reasonable goals and objectives but, in most cases, some direction as to how those goals should be accomplished. The statement also is an easy-to-use reference guide for individual clinicians who are treating lead poisoned children or interested in offering lead screening as part of their services. The document outlines the responsibilities of various state. federal and local public health, housing and environmental agencies.

2. The CDC statement is used in the preparation of professional education for nurses, physicians and environmentalists. Before the statement's recommendation to lower the threshold for lead poisoning was adopted, the document was mailed to every pediatrician in the area. Because the document pulls to together the scientific data which are the basis for various policies, it has been used by program staff to advocate for increased resources to implement the statement's recommendations. Several staff have developed proposals to respond to the research needs identified in the document.

3. Previous CDC statements on "Preventing Lead Poisoning in Young Children" have been the backbone of program efforts to guide private clinicians in the treatment and follow-up of lead poisoned children. The recommendations were used to develop case management and screening protocols. As new revisions become available program protocols are changed to reflect current understanding of the disease. New protocols have a direct impact on the practice of area pediatricians with most practitioners revising their practice to reflect the program's protocols. Other health care providers including community health nurses and outreach staff will also follow the current recommendations.

3. The CDC statement is drafted by a committee with the advice of various consultants who are specialists in public health law, clinical pediatrics, environmental intervention etc. The final draft is made available for public comment. Comment is particularly encouraged from state and local agencies who are directly influenced by changes in the recommendations. Since the early 1970's it has served as the primary document for programs providing screening and follow-up services to lead poisoned children. I am unaware of any formal evaluation process.

4. The advisory committee on childhood lead poisoning prevention meets periodically to review recent research findings in the field. The statement is updated to reflect these changes. This

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process is currently underway and the fifth revision of the statement can be expected as early as 1995.

5. The CDC statement serves as the primary source of information nationwide for a wide variety of local, state and federal agencies as well as individuals of many disciplines all of whose efforts are directed toward eliminating lead poisoning. Since sources of lead poisoning, efforts to control or eliminate it and government involvement vary widely, the statement's approach is necessarily generic. However, this lack of specific guidance can hamper new programs' efforts. For example, the fourth revision, which emphasizes prevention rather than treatment interventions, is weakened by its failure to quantify the definition of high risk communities ie. "communities where large numbers of children with blood lead levels of 10-14 mcg/dl reside." In the future, the CDC should give localities more direction in defining the problem.

The statement also fails to recognize and provide guidance to health care professionals other than physicians. The next revision could be enormously helpful if the roles of community outreach, nursing, social service and other members of a multidisciplinary team are clearly defined.

The October 1991 statement was the first time CDC began to outline the key role played by housing and environmental agencies. This section should be expanded in the next revision especially as these agencies become active participants. This could be accomplished by describing successful projects but might be even more valuable if descriptions of unsuccessful attempts with detailed analyses of the reasons for failure are included.

Mary Jean Brown, RN
February 5, 1994

CDC
CENTERS FOR DISEASE CONTROL

Preventing Lead Poisoning in Young Children

A STATEMENT BY THE CENTERS FOR DISEASE CONTROL — OCTOBER 1991

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / Public Health Service / Centers for Disease Contro

K55R

Establishing A Mandatory Childhood Lead Poisoning Screening Schedule In Massachusetts

Mary Jean Brown, RN
John Graef, M.D.
Paper Presented November 30, 1988

INTRODUCTION

As a result of recently passed legislation, M.G.L. C. 773 s. 8, the Childhood Lead Poisoning Prevention Program has been authorized to, "after consultation with recognized professional medical groups and such other sources deemed appropriate, promulgate regulations establishing the means by which and the intervals at which children under six years of age shall be screened for lead poisoning ....". To that end, a lead screening task force was established which included representatives of the Massachusetts Academy of Pediatric, the Massachusetts Academy of Family Physicians, the National Association of Pediatric Nurse Associates and Practioners, the CLPPP Governor's Advisory Committee, the CLPPP medical consultant and appropriate staff. The task force was charged with developing a screening schedule which could be incorporated into routine pediatric care and which would be flexible enough to allow for the identification of children affected by lead poisoning without unduly testing unaffected children.

Lead screening schedules vary widely. Several of those currently used by the health care community are described:

CURRENT PRACTICE

1. Centers for Disease Control

   In January, 1985 the CDC issued a statement which recommended that ideally, all children between the ages of 9 months and 6 years be screened for lead poisoning. If such systematic screening of the entire at risk group is not feasible, however, the CDC advised ranking children according to their suspected exposure to lead. Priority is given to younger children, 12 - 36 months of age, and known or strongly suspected exposure to high doses of lead, particularly lead based paint.

2. American Academy of Pediatrics (AAP)

   The March, 1987 AAP statement recommends that ideally all preschool children be screened for lead absorption. However, in areas of low incidence, the pediatricians may determine their patients to be at little risk. The AAP recommends that the pediatrician use CDC priority groupings 1-4 to determine which children to screen. Finally, the AAP recommends at a minimum, a universal, one time lead screening at 12 months of age.

3. Project Good Health (PGH)

   Project Good Health is a department of Public Welfare program which provides for comprehensive pediatric and adolescent health care for Medicaid eligible children. Health care providers who participate in PGH are required to screen their clients once between between 6 and 12 months and again at 24 months. Further screening is recommended particularly for high-risk children. These protocols are not only used by PGH providers but are part of the contractual agreement between Medicaid and prepaid medical plans.

They also have become the standards of care for the Children and Youth Clinics, Headstart, the Department of Social Services and the Department of Youth Services.

4. Childhood Lead Poisoning Prevention Program (CLPPP)

Finally, the lead program has often been called upon to recommend a standard screening schedule. Our general recommendation has been quite strict. Every child should be tested every year from 9 months to 6 years of age. However, there is a recognition within the program that these recommendations are idealistic and perhaps unnecessary in many settings. Therefore, we try to develop a protocol which fits well with the individual health care provider's experience of lead poisoning in his practice.

Massachusetts has long been considered a leader in the field of childhood lead poisoning prevention. The screening rate here is very high compared to other areas of the country. In fact, we once estimated that 1 out of every 8 American children screened for lead, lived in Massachusetts. We intended to use our experience in this area as a basis for the regulation. The 1986 and 1987 Needs Assessments as well as other program data give an indication of the current level of screening activities. Table 1 compares the screening and incidence rates of urban children, who have traditionally been considered at high risk, with those of rural children. As indicated by the Table, within the urban area, clinicians are committed to routine lead screening and the screening rates in these communities are generally much higher than either the statewide average of 45% or the 33% screening rate found in rural and suburban communities. However, a review of the records of children confirmed as lead poisoned during the first 6 months of 1988 indicated that approximately 30% of the poisoned children live in those rural or suburban communities where the risk for childhood lead poisoning has usually been considered small.

It is clear that the younger the child the more vulnerable he/she is to lead poisoning and the more likely to sustain permanent damage such as a learning disability. Concern for these small children is reflected in all the screening schedules previously described. It is an indication of the acceptance of these protocols that, as Table II shows, young children are much more likely than older ones to be screened routinely.

The rate of lead poisoning increases dramatically at 12 months and as seen in the Table III, the greatest number of children identified are between the ages of 12 and 24 months. However, 52% of the children were found to be lead poisoned after the age of 24 months. Additionally, the low incidence rate found in children 0-12 months should be interpreted with caution as lead poisoning is fairly uncommon before the age of 9 months. Actually the incidence rate by age group is the same from 13 - 36 months of age and does not fall below the statewide mean until 49 months of age.

It has been thought that the children who were found to be lead poisoned after the age of 24 months had, in reality, been poisoned earlier. This is another reason why all the screening protocols place particular emphasis on testing young children. However, in this sample it was possible, from a fairly limited data set to establish that 58% of the children had had a negative lead screening test (Class I/Ia) within 1 year of the poisoning.

The data available to us then seemed to indicate:

1. That while children living in those urban areas traditionally considered at high risk were poisoned more frequently, substantial risk for lead poisoning exists in all types of communities through-out the Commonwealth.
2. That while the number of children poisoned was greatest in the 13-24 month age group, many children were poisoned at older ages.
3. There is evidence that the poisoning of these older children is the result of fairly recent exposures.

Two other major issues remained to be examined by the task force.

First, consideration was given to the resources required to implement a mandatory screening schedule. Resource needs were clearly identified only at the programmatic level. The screening schedule adopted by the committee, if completely accepted, could mean as much as a 47% increase in the number of children screened within the next year. Clearly, such an increase will strain an already burdened system. However, the task force was not seen as the appropriate vehicle for addressing ~~addressing~~ the issue. Nor did it seen responsible to develop a preventative protocol based on fiscal constraints.

Second, the schedule must be accepted within the health care community. Acceptance within the medical community is dependent upon:

1. The schedule's practicality - It must conform to the schedule of routine pediatric care.
2. The schedule's flexibility - The schedule should differentiate between and provide guidelines for both high and low risk groups.
3. The schedule's perceived cost - Clinicians will be reimbursed for the cost of drawing the specimen and the paperwork associated with the procedure by both Medicaid and private insurers.

After careful review of the available statewide data, the task force determined that the

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screening protocol must be developed with a two-tier approach. Children's need for screening would be stratified according to familiar risk criteria including condition of residential paint, child's age and the child's possible exposure to specific sources. It was very important the that all lead screening tests currently done at routine intervals on high risk children be considered mandatory and therefore a service billable to private insurance carriers. However, the schedule should not unreasonably increase the health care provider's liability if she/he failed to establish or was unaware of changes in a child's risk status. For this reason, the schedule uses the phrase "Upon Determination" (see attached). However, the Department's legal counsel has advised us that under this schedule, health care providers will be expected to inquire as to the condition of the child's housing.

At this point, the screening schedule is beginning the bureaucratic process. It is anticipated that it will undergo some revisions.

TABLE I

COMPARISON OF INCIDENCE AND SCREEN RATES
URBAN, NON-URBAN AND STATEWIDE

	NUMBER OF CASES		INCIDENCE RATE (%)		SCREENING RATE (%)	
	1986	1987	1986	1987	1986	1987
Urban[1]	969	751	1.2	0.7	72	72
Non-urban	266	250	0.3	0.2	30	33
Statewide	1,235	1,001	0.7	0.5	41	45

[1] Boston, Brockton, Haverhill, Holyoke, Lawrence, Lowell, Lynn, New Bedford, Springfield, Worcester

TABLE II

SCREENING RATE BY AGE AT SCREEN

CALENDAR YEAR 1987

Age In Months	Childhood Population[1]	Number of Children Routinely Screened	Screening Rate
6 - 24	95,654[2]	57,792	60%
25 - 48	122,805	40,182	33%
49 - 72	114,270	21,318	19%
TOTAL	332,729	117,306	35%

1. From the Annual Report - Vital Statistics of Massachusetts 1982, 1983, 1984, 1985, 1986, excluding the City of Boton.

2. Based on Division of Health Statistics estimates for 1987.

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The State Laboratory Institute
November 20, 1989

LEAD POISONING SCREENING SCHEDULES

	Current Minimum	Proposed Minimum	High Risk
Childhood Lead Poisoning Prevention Program (CLPPP)	Recommended once each year for children 9 months to 6 years. Estimated screening penetration 45%.	Mandatory once each year for children 9 months to 4 years. Expected screening penetration > 80%.	Changes from recommended to mandatory screening every 6 months for children 6-36 months and yearly for children 3-6 years.
Project Good Health	Mandatory at 6-12 months and at 24 months. Recommended at 3 and 4 years.	No change.	No change.
American Academy of Pediatrics	Recommended at 12 months.	No change.	Recommended screening every 6 months for children 12-36 months of age with known or strongly suspected exposure to lead.
Office for Children	Mandatory at 2 years or at entry into day care. Mandatory between 5 and 6 years for children in after-school programs.	No change.	No change.

PROJECT GOOD HEALTH SCREENING PROTOCOL

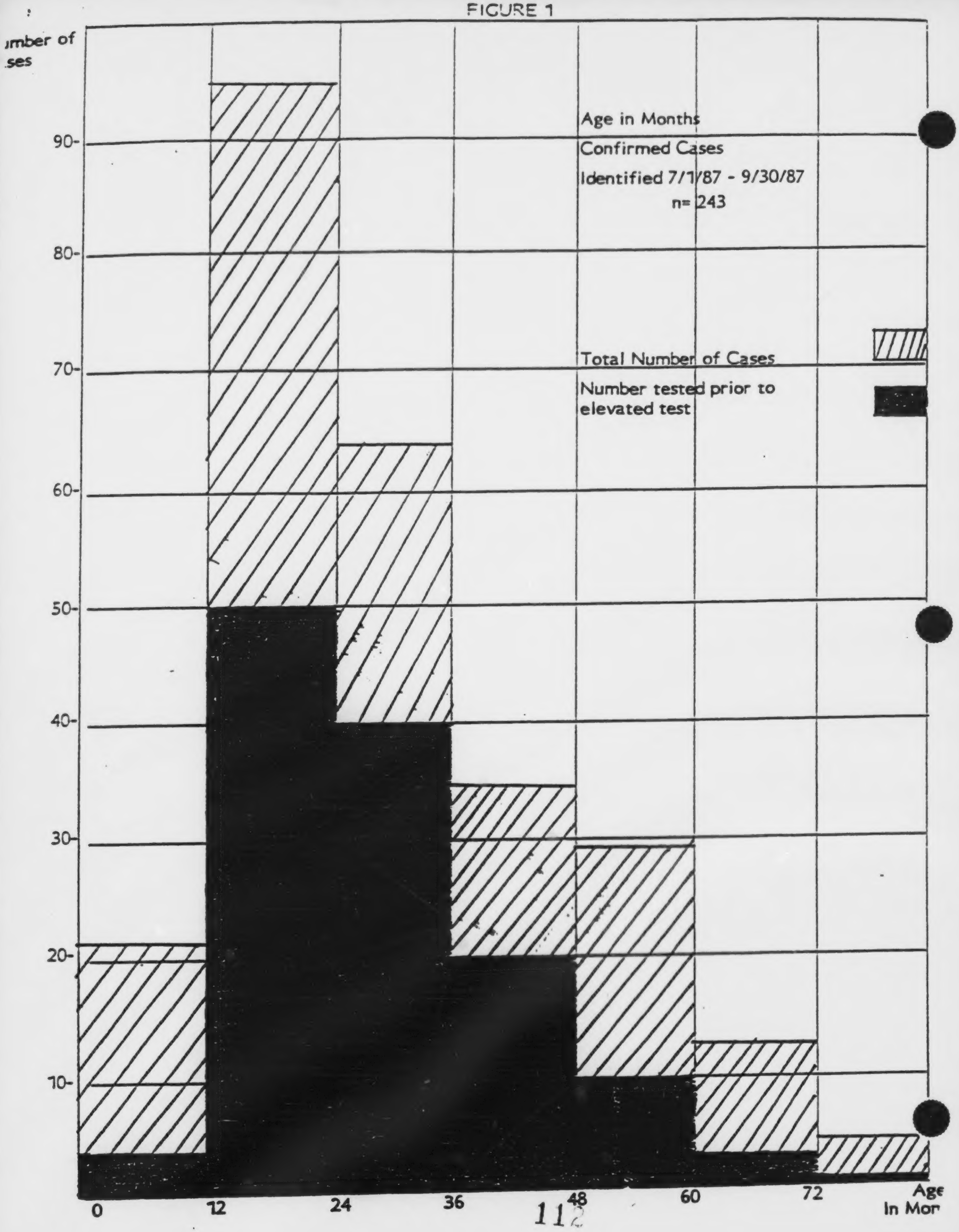
1. Required once between 6 and 12 months.
2. Required once at 24 months.
3. Recommended at 3 and 4 years.
4. Recommended every 4-6 months if environmental factors place child at high risk.

CHILDHOOD LEAD POISONING PREVENTION PROGRAM

SCREENING PROTOCOL

1. Recommended at least once a year for children 9 months - 6 years.
2. Recommended every 6 months for children 12 - 36 months of age particularly if potential for exposure is high.

FIGURE 1



umber of
ses
90-
80-
70-
60-
50-
40-
30-
20-
10-
0
12
24
36
48
60
72
Age
In Mor
Age in Months
Confirmed Cases
Identified 7/1/87 - 9/30/87
n= 243
Total Number of Cases
Number tested prior to elevated test

pg 1

105 CMR 460.000: Regulations for Lead Poisoning Prevention and Control

460.002: Authority

This chapter is adopted under authority of M.G.L. c. 111, ss. 190-199A and pursuant to the provisions of M.G.L. c. 30A, s. 2, M.G.L. c. 112, s. 12BB, M.G.L. c. 175, s. 47C, M.G.L. c. 176A, s. 8B, and M.G.L. c. 176B, s.4C.

460.050: Mandatory Lead Poisoning Screening Schedule

(A) Health Care Provider Applicability. Pursuant to M.G.L. c. 122, s. 12BB:

(1) Each physician duly registered under the provisions of M.G.L. c. 112, ss. 2, 2A, 9, 9A or 9B shall screen patients for lead poisoning at the intervals and using the methods specified in this section; and

(2) Each licensed, registered or approved health care facility serving children under six years of age, including but not limited to hospitals and clinics licensed under the provisions of M.G.L. c. 111, s. 51 shall take appropriate steps to ensure that their patients receive such lead poisoning screening; and

(3) Each health maintenance organization licensed under the provisions of M.G.L. c. 176G shall take appropriate steps to ensure that its patients receive such lead poisoning screening.

(B) Screening shall be conducted in conformity with the Capillary Blood Sample Protocol.

(C) Children shall be assessed at their next regularly scheduled preventative pediatric appointment to determine whether or not they are at high risk for lead poisoning. Criteria which may indicate high risk include:

(1) Living in housing constructed prior to 1978 containing paint in poor condition i.e., peeling, chipping or flaking paint, or broken or crumbling plaster; or

(2) Living near lead smelting or processing plants or other point sources of lead contamination, or having parents or other household members who work in a lead-related occupation or have a lead-related hobby; or

(3) Having siblings, housemates or playmates who are lead poisoned; or

(4) Living in housing constructed prior to 1978 which is undergoing renovation significantly likely to disrupt painted surfaces.

(D) Those children who are prudently deemed to be at high risk for lead poisoning under criteria cited in 105 CMR 460.050 (C) (1) or (C) (2) or (C) (3) shall be screened:

(1) At least every six months between the ages of six months and 36 months; and

(2) Annually, between the ages of 37 months and 72 months.

Pg 2

(E) Children who are assessed to have a high risk status under the criterion cited at 105 CMR 460.050 (C) (4) shall be screened at least every three months during the renovation and once after completion of the process.

(F) All children who do not meet any of the high risk criteria shall be screened once between the ages of 9 and 12 months and annually thereafter until the age of 48 months.

(G) Children must present evidence of having been previously screened for lead poisoning as a condition for entry to kindergarten.

460.060: Reimbursement for Screening Conducted Pursuant to the Mandatory Lead Poisoning Screening Schedule in 105 CMR 460.050.

The following lead poisoning screening services shall constitute the "screening for lead poisoning" required to be covered under policies of insurance as provided by M.G.L. c. 175, s. 47C, hospital service contracts as provided by M.G.L. c. 176A, s. 8B, medical service contracts as provided by M.G.L. c. 176B, s. 4C, and health maintenance contracts as provided by M.G.L. c. 176G, s.4, and shall be reimbursable:

(A) Conduct of the lead poisoning risk assessment pursuant to 105 CMR 460.050(C).

(B) Completion of the laboratory form known as a bloodslip.

(C) Drawing of the blood specimen pursuant to 105 CMR 460.050 (B).

(D) Packaging and handling of the blood specimen including postage costs for mailing the specimen to the laboratory.

(E) Analysis of a blood specimen for erythrocyte protoporphyrin by fluorometry, either through measurement of zinc protoporphyrin or by extraction, and when indicated, determination of lead level by atomic absorption spectrophotometry.

REGULATORY AUTHORITY

105 CMR 460.000: M.G.L. c. 111, ss. 190-199A, M.G.L. c. 112, s. 12BB, M.G.L. c. 175, s. 47C, M.G.L. c. 176A, s. 8B and M.G.L. c. 176B, s. 4C.

pg 3

EXPLANATION OF LEAD SCREENING REGULATIONS

(150 CMR 460.050, and .060)

A. The law requires that preschool children be periodically screened for lead poisoning. Health care providers and health care facilities are expected to make lead screening available. The screening may also be performed by employees of other agencies including boards of health, WIC programs or Office for Children and Lead program staff. To avoid duplication, persons collecting the sample should note the date the sample was drawn on the child's immunization records. It is the responsibility of the Lead program's case management nurses to notify the primary health care provider of elevated lead levels regardless of where the sample was drawn.

B. Beginning March 1, 1990, children should be screened at the next regularly scheduled well-child visit. Children do not need to be scheduled solely for routine lead screening prior to the well-child care visit.

C. The following criteria are suggestions of those factors which may indicate that a child is at high risk for lead poisoning.:

1. Living in housing constructed prior to 1978 containing paint in poor condition i.e., peeling, chipping or flaking paint, or broken or crumbling plaster; or
2. Living near lead smelting or processing plants or other point sources of lead contamination, or having parents or other household members who work in a lead-related occupation or have a lead-related hobby; or
3. Having siblings, housemates or playmates who are lead poisoned; or
4. Living in housing constructed prior to 1978 which is undergoing renovation.

They are presented here as guidelines. Health care providers are obligated to determine a child's potential for lead exposure.

D. Those children who are determined to be at high risk for lead exposure should be screened every 6 months between the ages of 6 months and 3 years and yearly from 3 years to 6 years. Since a child's risk status may change, it is important to evaluate risk at every screen and schedule the next screening test accordingly.

E. If a child is present in a home undergoing renovation which involves significantly disturbing old paint, he is at very high risk for lead poisoning. Parents should be warned of the hazard of allowing this type of exposure to continue. If the child cannot be housed in another location during the time that the paint is being removed, then she/he needs a screening test every 3 months while the work is in progress and once after it is completed.

F. All children regardless of risk shall be screened at least once between the ages of 9 and 12 months and annuallly thereafter until the age of 48 months.

C. Children must present evidence of being screened at least once between the ages of 9 months and 5 years to be allowed to enter kindergarten. Those who have never been screened for lead poisoning must be tested prior to entry. This requirement does not apply to older children.

A-D. Costs incurred by health care providers as a result of lead screening are required reimbursable by Medicaid and private health insurance companies. Please contact a representative of the company to determine the procedure for reimbursement. If a company disallows these claims please contact the Lead Program.

E. Laboratories, including the State Laboratory, may charge for analysis of blood samples for lead and/or erythrocyte protoporphyrin.

Mary Jean Brown, RN
MDPH/CLPPP
February 28, 1990

PREVENTING CHILDHOOD LEAD POISONING:

GUIDELINES FOR SCREENING AND FOLLOW-UP IN NEW JERSEY

September 1, 1993

Dear Colleague:

Childhood lead poisoning remains a serious public health problem. Ongoing research indicates that there is no specific threshold for the harmful effects of lead. Measurable decreases in the cognitive functioning of young children have been identified at blood lead levels as low as 10 micrograms per deciliter. These findings have compelled the Centers for Disease Control and Prevention, joined by the American Academy of Pediatrics, to vigorously campaign to prevent lead toxicity before it occurs.

New Jersey statistics document that a significant number of our children continue to be exposed to lead. In 1992, there were over 2,700 children under care for lead poisoning, and about 1000 of these children were new cases with confirmed blood lead levels of 25 micrograms per deciliter or higher. Unfortunately, the 63,900 children reported screened in 1992 represents only 36% of the identified high risk population and 10% of the total population of children under six years of age. This limited screening activity is of particular concern because over 65% of the housing stock in New Jersey was built before 1960 when lead paint was used extensively. Young families in all socio-economic strata are moving into older homes often unaware of the lead paint hazard, as well as other sources of lead in their environment.

I am asking the state's physician community to intensify its participation with local public health officials in addressing lead poisoning prevention. To assist you in this effort, the New Jersey Physician Lead Advisory Committee has developed guidelines for lead screening and follow-up of asymptomatic children under six years of age. These guidelines will help you to provide effective preventive care through routine blood lead screening and anticipatory guidance.

In addition, the Advisory Committee recognizes that there are concerns related to the implementation of universal blood lead screening and difficulties in ensuring the safe reduction of lead exposure. I also encourage you to attend one of the series of local and regional lead education seminars for physicians and public health providers to promote cooperation at the community level which will soon be announced.

The physician's role in the delivery of primary and preventive health care is essential. Please review these new guidelines and help us expand our lead prevention efforts so that every family caring for children is aware of the environmental hazard of lead.

Sincerely,

Bruce Siegel, M.D., M.P.H.
Commissioner of Health

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NEW JERSEY PHYSICIAN LEAD ADVISORY COMMITTEE

The State Health Department would like to thank Dr. Franklin Desposito and Dr. Antonia Ty, who co-chaired the Advisory Committee, the individual members of the committee and all the physicians who assisted in the development and review of the guidelines.

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Physicians who are unfamiliar with the clinical management of lead burdened children are encouraged to request consultation from members of the Advisory Committee as needed. Please call the State Childhood Lead Poisoning Program at (609) 292-5666 for a list of experienced practitioners and lead treatment centers in your area.

NEW JERSEY
DEPARTMENT
OF
HEALTH

PHYSICIAN LEAD ADVISORY COMMITTEE
LEAD RISK ASSESSMENT QUESTIONNAIRE

Child's Name:____ **Date of Birth:**____________________

HIGH RISK EXPOSURE FACTORS **DATE**	/ /		/ /		/ /		/ /	
Does your child...	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**
1. Live in or regularly visit a house with **peeling or chipping paint built before 1960?** This could include the home of a babysitter or relative, a daycare center or preschool, etc.								
2. Live in or regularly visit a **house built before 1960 with** planned, recent (within past year) or ongoing **renovation/remodeling activity?**								
3. Have a brother or sister, a playmate or other household member with a confirmed elevated blood lead level?								
4. Live with an adult whose job or hobby involves exposure to lead?								
5. Live near an active lead smelter, battery recycling plant, or other industry likely to release lead?								
6. Have a history of possible prenatal exposure (child's mother had elevated blood lead during pregnancy)?								
7. Have iron deficiency or anemia, sickle cell disease, developmental delay or behavioral problems?*								
8. Have a habit of eating dirt, paint chips or other non-food items?*								
9. Have **excessive mouthing habits** that are **not age appropriate?**								
10. Have an elevated blood lead test 10 µg/dL or higher when last tested?								

THE ABOVE QUESTIONS ARE NOT A SUBSTITUTE FOR BLOOD LEAD TESTING.

A **"Yes"** answer to any of the above questions indicates **High Risk** status and blood lead screening should **begin at 6 months** of age and continue at regular intervals through age five.

A **"No"** answer to all of the above questions indicates **Low Risk** status, however, **routine blood lead screening** should be done on **all children** initially at **12 months** and again at **24 months** of age.

*** Note:** Children with developmental delays and/or pica behavior continue to be at high risk for lead exposure regardless of age and, therefore, routine blood lead screening should continue after age five.

SEPTEMBER, 1993

Guidelines for Lead Screening and Follow-up of Clinically **Asymptomatic** Infant and Preschool Children Under Six Years of Age

Assess every child's individual risk of lead exposure using a **Lead Risk Questionnaire** during each regular office visit starting at **6 months** of age through **5 years.**

Follow **Screening Schedule** below and use both a **blood lead and EP** test in order to **identify lead exposure and iron deficiency.**

- Sample collection may be by capillary or venous method.
- If capillary method is used, efforts to reduce contamination must be vigorously employed.

- Screening Schedule -

Age	Risk Status (by Questionnaire)	Blood Lead (B-Pb)	Erythrocyte Protoporphyrin (EP)
6 Months	Low Risk	No	No
	High Risk	**Yes**	**Yes**
12 Months	Low Risk	Yes	Yes
	High Risk	**Yes**	**Yes**
18 Months	Low Risk*	No*	No*
	High Risk	**Yes**	**Yes**
24 Months	Low Risk	Yes	Yes
	High Risk	**Yes**	**Yes**
3 Years 4 Years 5 Years	Low Risk	Screen if **previous** blood lead and EP status **not known.**	
	High Risk	Rescreen yearly with blood lead and EP.	

* If no previous screen, test regardless of risk status.

Note:

1. Decisions about the frequency of rescreening should be based on **previous blood lead results and the child's current risk of lead exposure by Questionnaire.**
2. If at any time the Risk Questionnaire indicates that exposure to lead has increased, a follow-up blood lead and EP test should be done.
3. Children with developmental delays and/or pica behavior continue to be high risk for lead exposure regardless of age and, therefore, routine blood lead screening should continue after age five.
4. See attached Follow-up Guidelines.

New Jersey Department of Health
Physician Lead Advisory Committee
September, 1993

Follow-up Guidelines for **Asymptomatic** Children with Blood Lead Screening Levels **Under 20 µg/dL.**

Screening Blood Lead (µg/dL)	**Pediatric Evaluation**	**Case Management**
0 - 9 (Capillary or Venous) Venous confirmation not required.	**a)** Evaluate and treat iron deficiency in all children (EP screening results 35 µg/dL or higher require follow-up). **b)** Review Risk Questionnaire to evaluate current lead exposure. **c)** Rescreen per schedule for High or Low Risk status.	- Review lead sources with parent/caregiver. - Reinforce preventive measures: • Hand washing • Dust control **(Wet Mopping-use high phosphate detergent if available).** • Nutrition (Iron, Calcium) • Avoid first draw water • Supervision - Keep child away from **peeling paint or dust** from home repairs. **(See #6-Additional Recommendations).**
10 - 14 (Capillary or Venous) Venous confirmation optional.	**a)** As above. **b)** As above. **c)** Repeat blood lead and EP within 3 to 6 months (regardless of age or risk status). Rescreen per schedule for High or Low Risk status when blood lead levels decrease to under 10 µg/dL.	As above.
15 - 19 (Capillary or Venous) Confirm capillary results with venous blood within 1 month. **Note:** Some physicians may choose to monitor above levels with capillary rather than venous tests. Due to the high rate of false positive results using capillary methods, **venous samples are mandatory before initiating chelation or abatement procedures.**	**a)** As above. **b)** As above. **c)** Repeat **Venous** BPb and EP q. 1-3 months: • When levels decrease to **under 10 µg/dL**, rescreen per schedule for High or Low Risk status. If **Venous** BPb remains elevated between 15-19 µg/dL x 2: • Consider environmental investigation to identify source of exposure. • Consider consultation with lead teatment center or physician experienced in lead case management.	As above.

New Jersey Department of Health
Physician Lead Advisory Committee
September, 1993

Follow-up Guidelines for **Asymptomatic** Children with Blood Lead Screening Levels **20 µg/dL or Higher.**

SCREENING B-Pb (µg/dL)	PEDIATRIC EVALUATION	CHELATION THERAPY	CASE MANAGEMENT
20 - 24	**a)** Confirm capillary results by **venous** blood within **1 week**. **b)** History and physical examination. **c)** Evaluate and treat iron deficiency.	Minimal data exists about chelating children with blood lead levels under 25 µg/dL. **Note:** Chelation therapy is not a substitute for timely and effective reduction of exposure source.	**Refer to Local Health Department** for environmental investigation and remediation of exposure source. **Screen all siblings under age 6** and evaluate risk of other family members. **Reinforce preventive measures:** • Hand washing • Dust control **(Wet Mopping- use high phosphate detergent if available).** • Nutrition (Iron, Calcium) • Avoid first draw water • Supervision - Keep child away from **peeling paint or dust** from home repairs. **(See #6-Additional Recommendations).** Monitor closely with serial **venous** blood lead and EP tests **q. month initially** until blood levels decrease.
25 - 44	**a)** As above. **b & c)** As above. **d) Optional:** $CaNa_2$ EDTA Mobilization to assess urinary lead excretion. Requires proficient laboratory and capacity to collect at least 8 hours of urine.	**Succimer:** FDA approved for blood lead levels > 45 µg/dL. Physician should use clinical judgement.	
45 - 69	**a)** Confirm capillary results by **venous** blood within **48 hours**. **b & c)** As above. **d)** Evaluate if hospitalization is needed to separate child temporarily from lead source and/or to achieve compliance with treatment protocols.	**$CaNa_2$ EDTA** for 5 days IM or IV (by continuous infusion or in divided doses via heparin lock) per prescribed protocol. Modified dual therapy in conjunction with BAL when indicated. **Succimer** per prescribed protocol. If compliance cannot be assured, may be given on inpatient basis. **Repeat treatment cycles may be needed** based on blood lead rebound.	**As above.** (Notify Local Health Department of hospitalization and/or chelation treatment to facilitate prompt inspection of environment). **Note:** Post chelation **venous** blood lead and EP testing should be done q. **1 - 2 weeks initially** and then q. month for at least 1 year after treatment. Ongoing communication and coordination between medical provider and local public health team is necessary for effective long-term supportive follow-up.
> 70	**a)** Confirm capillary results by **venous** blood **immediately**. **b & c)** As above. d) Immediate hospitalization is advised to ensure temporary removal of child from lead source and to closely monitor progress.	Combined therapy with **BAL and $CaNa_2$ EDTA** per prescribed protocols. **Repeat treatment cycles may be needed** based on blood lead rebound. **Note:** Medicinal iron should **never** be given with BAL due to toxic reactions.	

NEW JERSEY DEPARTMENT OF HEALTH
PHYSICIAN LEAD ADVISORY COMMITTEE
SEPTEMBER, 1993

ADDITIONAL RECOMMENDATIONS:

1. **Symptomatic lead poisoning** (with frank or impending encephalopathy) is an **acute medical emergency** and needs **IMMEDIATE hospitalization and treatment** by a multidisciplinary team at a pediatric center that has an intensive care unit.

2. Every EP result 35µg/dL or higher should be evaluated for iron deficiency and also should be considered in the interpretation of blood lead levels.

3. Nutritional **(referral to WIC if eligible)**, social service and related assessments should be included in the diagnostic evaluation of every child. Referral for neurodevelopmental evaluation should be considered on an individual basis.

4. Physicians unfamiliar with the clinical management of lead cases should consider consultation with a lead treatment center or experienced practitioner.

5. Chapter XIII of the NJ State Sanitary Code (NJAC 8:51) **requires*** that local health departments conduct an investigation to identify lead sources in the environments of children under age six, whenever **a confirmed venous blood lead level of 20 µg/dL or higher is reported.** If lead paint hazards are identified, the local health department must assure that abatement is carried out in accordance with procedures found in NJAC 8:51-5.

6. Pregnant women and children **should not be allowed to remain in homes** where lead paint abatement is in progress or when homes with lead paint are being remodeled because these activities create hazardous lead dust.

* Some local health departments with adequate resources (staff, etc.) are willing to conduct an environmental investigation at blood lead levels 15 µg/dL or higher. Physicians are encouraged to contact the local health officer and the public health nursing supervisor in their area for assistance in case management.

Note: All NJ laboratories are required by NJAC 8:44 - 2.11 to report blood lead levels of 25 µg/dL or higher to the State Health Department. (The Department is in the process of revising regulations to require reporting at blood lead levels of 20µg/dL).

Acknowledgements:

The New Jersey Department of Health and the Physician Lead Advisory Committee wish to thank the UMDNJ-New Jersey Medical School's Department of Pediatrics and the Academic Media Department who assisted the Advisory Committee in organizing the guidelines into a readable format.

New Jersey Department of Health
Physician Lead Advisory Committee
September, 1993

The rapid development of the scientific data base requires recognition by physicians of the significance of effects at lower blood lead levels and a change in clinical practice.

Lead Poisoning: From Screening to Primary Prevention
AAP Policy Summary, April 1993

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DEPARTMENT OF HEALTH
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Guidelines for the Detection and Management of Lead Poisoning

Virginia Department of Health
Division of Child and Adolescent Health
April 1, 1994

- Screen all children for elevated blood lead at 12 months of age.
- Screen any child age 6 years and under not previously tested.
- Take careful history regarding possible lead exposure at each routine visit.
- Screen high risk* children earlier than 1 year and every 6 months.
- Provide appropriate educational materials for parents.
- Confirm elevated capillary blood lead levels 15 μg/dL and above with venipuncture.
- Report venous levels above 15 μg/dL to VDH Office of Epidemiology.

MANAGEMENT OF CHILDREN WITH ELEVATED VENOUS BLOOD LEAD LEVELS

BLOOD LEAD LEVELS IN μg/dL	PREVENTION	FOLLOW UP TESTING	MEDICAL TREATMENT
10-14	Counsel parents about lead sources, hygiene and nutrition. Consider testing siblings 6 years and younger.	Repeat bloodwork every 3-4 months. If <10x2 or <15x3, retest annually. Screen for iron deficiency anemia.	Treat iron deficiency if present.
15-19	Counsel as above. Refer for health department environmental investigation if 2 consecutive venous tests remain in this range. Screen household children 6 years and under.	Repeat bloodwork every 3-4 months.	Treat iron deficiency if present.
20-44	Counsel parents. Refer to health department for: 1. Environmental investigation. 2. Case management. 3. Developmental assessment.	Repeat bloodwork every 3 to 4 months or more often as medically recommended.	Complete medical evaluation, including developmental assessment. For medical treatment, refer to local health department or regional treatment center.
45-69	Same as above except environmental investigation and intervention must occur within 5 working days.	As recommended by hospital staff.	URGENT MEDICAL INTERVENTION.
70 and above	Same as above. REPORT IMMEDIATELY.	Same as above.	MEDICAL EMERGENCY! Immediate inpatient chelation therapy.

These guidelines are compatible with recommendations of the Centers for Disease Control and Prevention and the American Academy of Pediatrics.

SYMPTOMATIC LEAD POISONING IS A MEDICAL EMERGENCY AT ANY LEVEL!

SYMPTOMS INCLUDE:

- Stomachache and vomiting
- Seizures
- Bizarre Behavior
- Ataxia
- Apathy
- Incoordination
- Irritability
- Alteration in state of consciousness
- Slow development or subtle loss of recently acquired skills

---

* High-risk if "yes" to any of the following:

Does the child -

1. Live in or regularly visit a house or daycare center built before 1960 with peeling or chipping paint?
2. Live or regularly visit a house built before 1960 with recent, ongoing or planned renovation?
3. Have a sibling, housemate or playmate with lead poisoning?
4. Live with an adult whose job or hobby involves exposure to lead?
5. Live near an active lead smelter, battery recycling plant, or other industry likely to release lead?

Developed by the Division of Child and Adolescent Health and the Crater Health District. Funded by the Centers for Disease Control and Prevention, and by Virginia Department of Health. For referral to regional treatment center or more information call 1-800-523-4019.

VDH VIRGINIA DEPARTMENT OF HEALTH

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Lead Poisoning Prevention
Central Virginia Health Dept.

Patient Management Guidelines

This protocol pertains to all clinic sites in the district.

Routine Screening - Capillary lead at 6mo. 1, 2, 3, 4, and 5 yrs.

If lead 9 mcgm or less	Lead >9 mcgm
Repeat each year (Responsibility of Lead Nurse in Lynchburg or Nurse Supervisor in Counties	Repeat asap. Obtain capillary if <20 mcgm. Obtain venous if >20 mcgm.

If confirmed lead 10-14	If confirmed lead 15-19
Repeat every 3 months. When 2 test <10 or 3 tests <15, retest yearly	1. Assign case manager 2. Environmental history to identify source of lead, and information for family to handle the environment 3. Nutritional counseling 4. Access lead testing every 3-4 mths 5. Refer for safe day-care 6. Refer for environmental evaluation by Environmental Specialist

If confirmed lead 20-34 (venous)	If lead 35 or greater (venous)
1-6 Proceed as with instructions for leads with 15-19 mcgm 7. Refer for medical evaluation 8. Refer to CDC for developmental evaluation	Complete the first 8 steps 9. Refer to physician

Data generated on patients or addresses need to be placed on Stellar program by secretary as well as on the patient's chart by the Lead Nurse. Environmental Health and physician will enter own data. All other data, new or changes, will be entered by secretary. The provider/medical data screen, case file identification screen and other case management data screen may be used as working material.

We advocate that all children who have case management be referred for safe day-care like Head Start.

Be sure to coordinate work with environmental Specialist.

kch/6-39

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TITLE: Generalized Procedure Fingerstick Blood

Source: Milwaukee Health Department

Who use this material?

Clinic Assistants, outreach workers, Public Health Aides, Clinics, Physician Offices

What is the purpose of this material?

Step by step procedure to obtain uncontaminated blood sample.

How is the material used in the program operation?

For any MHD screening at Day cares, Headstarts, WICS and clinics

How and why was the material developed?

To prevent contamination of blood sample and be a less intensive procedure. Based on state & CDC recommendations.

Based on evaluations are there any plans for modification of the materials?

Possibly as the result of study looking at finger cleaning methods.

Recommendations for modifying or improving this material:

To make changes in number of materials used in cleaning.

GENERALIZED PROCEDURE
FINGERSTICK BLOOD

A. **Responsibility for Activity**

1. Initial Screening - Public Health Aide, Clinic Assistant, Public Health Nurse.

2. Supervision of Public Health Aide, Clinic Assistant, Public Health Nurse.

B. **Supplies - Equipment**

Lancets
Capillectors
Lead-Free Bar Soap
Lead-Free Brown Paper Towels
Lead-Free Alcohol Wipes
Lead-Free Cotton Balls
Lead-Free Cotton Swaps
Specimen Labels
Bandaids

C. **Procedure**

1. Wash hands.

2. Assemble needed equipment for specific test(s) to be completed. Remove purple top of capillector, replace with funnel top.

3. Wash client's hands with lead-free soap, wipe with lead-free brown paper towels.

    a. Use friction to work soap into lather.

    b. Rinse thoroughly and dry.

    c. Apply 0.3% nitric acid to cotton swab.

    d. Wipe tip of ring finger with nitric acid in scrubbing motion.

    e. Rinse and dry hand, wipe in brown paper towel.

4. Instruct parent to hold child securely.

5. Wash hands with lead-free soap, dry.

6. Hold client's hand, palm up position, your thumb on nail side, and other four fingers on palm side.

7. Wipe ring finger with alcohol wipe.

8. Stick ring finger fingertip sharply and quickly with Lancet on the outer lateral area.

9. Wipe first drop of blood with dry cotton ball.

10. Reposition client's hand, thumb up.

11. Allow 10 drops of blood to fall into the capillector. Remove the funnel top, replace the purple top.

12. Cleanse client's finger with alcohol wipe, dry and apply bandaid.

13. Thoroughly mix the blood by shaking capillector for 30 seconds. The purple top tube contains EDTA to prevent clotting.

14. Complete the label per Department policy.

15. Refrigerate specimen until transported to laboratory.

interview, to jog clients' memory better and help them remember incidents they might not otherwise remember. One of the weaknesses of such a form is that it is long and repetitive. The current draft of this form has been amended frequently and needs an overhaul so it is presentable and flows more evenly. Therefore I am not sending it to you now, but you are more than welcome to it when it is developed better if you are still interested.

Similarly, we are in the process of developing a Client Questionnaire for clients as they are waiting in our waiting room regarding other matters. This questionnaire asks just a few quick questions seeking information that will help us determine whether this client may be eligible for a lead poisoning prevention suit. Again I am not sending it to you now, but you are welcome to it when it is developed better.

The additional form I am sending is denominated Schools/Infrastructure-Bridges Questionnaire. This case description form is distributed to parents to obtain information about them and determine if they are eligible for and interested in bringing litigation due to lead paint in preschools or on various steel structures in New York City. These steel structures include the bridges and elevated highways and subway lines. These steel structures are lead painted and when that lead paint is removed for maintenance and renovation the lead enters the surrounding neighborhoods.

We are also developing a Lead Poisoning Prevention Project Checklist, to make sure we progress through various important stages in our lead poisoning prevention litigation on behalf of each client. This checklist may also be of interest to you when we have developed it adequately, although it is more specific to our Bronx Legal Services processes than the other forms.

Similarly, we are developing a Lead Poisoning Prevention Project Case Fact Sheet, which is just a short form to keep in the front of our clients' legal files that enables us to find important information at a quick glance. This fact sheet will probably be of even more marginal interest to you.

I am sorry not to have more to provide you in a more timely manner, but we'll stay in touch.

Sincerely,

Lucy

Lucy Billings

enc.

LTROCHOW.PB9

BRONX LEGAL SERVICES

579 COURTLANDT AVENUE
BRONX, NEW YORK 10451
TEL: (718) 993-6250
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PAULINE A. MULLINGS
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Director of Special Litigation

April 22, 1994

ALLIANCE
APR 28 1994
CHILDHOOD LEAD
POISONING

James Rochow, Esq.
Alliance to End Childhood Lead Poisoning
227 Massachusetts Avenue, N.E., Suite 200
Washington, DC 20002

Dear Jim:

This letter is to provide you further explanation of forms that Bronx Legal Services uses in its lead poisoning prevention work.

The forms I sent you previously are three one-page outlines of children's rights, under laws applicable in New York City, to (1) testing and treatment for lead poisoning under the Medicaid program and, depending on whether a child is known to have an elevated blood lead, children's rights to (2) testing and treatment of lead paint conditions in the home enforced by the City Department of Housing Preservation and Development (HPD) and (3) testing and treatment of lead paint conditions in the home enforced by the City Department of Health (DOH). Accompanying each of these three outlines is another one-page form to complete, which elicits the information necessary to determine the extent to which a child's rights have been denied.

These forms were developed for use by attorneys and other advocates who may not have engaged in lead poisoning prevention advocacy previously or routinely. We did not anticipate that the families of the children themselves would use these forms. Nor is it expected that much of the information on the "tracking" forms will be gathered in an initial interview. Much of it may not even develop until the families begin to exercise their rights, which they may first learn of in their initial interview with the advocate.

We are in the process of developing a far more comprehensive Interview Questionnaire to use when we first meet a client to elicit information necessary for us to determine if we should take the case. The questionnaire asks the same question two or three times from different angles at different points in the

LTROCHOW.PB9

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ROBERT REYES
Chairperson

WALKER T. THOMPSON
Project Director

LUCY BILLINGS
Director of Special Litigation

CLIENT INTERVIEW FORM FOR LEAD TESTING AND TREATMENT

I. TESTING FOR LEAD POISONING

If the clients' children under age 7 are Medicaid recipients, they are entitled to proper lead poisoning screening.

Who is the pediatric care provider?
From this we can determine whether it is a:

-- Medicaid provider.

-- Child Teen Health Program (CTHP--a component of Medicaid for children) provider, which DSS claims it must also be.

A. If the children have been screened, obtain the following information, from the client and Medicaid provider:

How frequently?

Method: "EP" or blood lead test?

Venous or capillary blood test?

Results (in micrograms [μg.] of lead/deciliter of blood)?

B. If the children have not been screened:

Refer them to a Medicaid provider or N.Y.C. Dept. of Health (DOH) facility to request a routine physical exam.

Track and obtain the information under IA above.

C. If the results were 10 μg./dl. (poisoning) or above:

Did the provider follow-up?

Diagnostic evaluations?

Treatment? Medical:

Environmental:

Further DOH obligations are triggered--see III below.

II. TESTING FOR LEAD PAINT BEFORE THE CHILD IS POISONED--HPD

If the client has children under age 7 in the home, lead paint must be removed or encapsulated. N.Y.C. Admin. Code § 27-2013(h).

A. Peeling paint in a pre-1960 building is presumed to be lead paint without testing.

B. Non-peeling paint or paint in a post-1960 building must be tested (using an XRF machine).

Make a complaint of and request an inspection for peeling and/or lead paint to HPD.

Track HPD and landlord responses under either A or B; HPD may illegally limit its response to A circumstances.

See HPD Tracking Sheet

III. TESTING FOR LEAD PAINT WHEN THE CHILD IS POISONED--DOH

If there is a lead poisoned person (of any age) in the home, lead paint must be removed or encapsulated.

The medical testing site must report any results ≥ 10 µg./dl.to DOH. N.Y.C. Health Code § 11.03. When did it do so?

Upon receiving the report, DOH should inspect and order correction of lead paint.

Health Code § 173.13(d)(2) now requires:

Correction when the poisoning is ≥ 20 µg./dl.

Inspection and monitoring when the poisoning is ≥ 15 µg./dl.

§ 173.13(d)(1) also authorizes DOH to order correction regardless of the poisoning.

A. DOH may presume peeling paint in a pre-1960 building to be lead paint without testing.

B. Non-peeling paint or paint in a post-1960 building must be tested (using an XRF machine).

Track DOH and landlord responses under either A or B; DOH may illegally limit its response to A circumstances.

See DOH Tracking Sheet

[revised 10/6/92]

TRACKING SHEET FOR LEAD POISONING SCREENING, DIAGNOSIS, AND TREATMENT

CLIENT'S NAME:

CHILD'S NAME: DOB:

ADDRESS:

MEDICAID #: HOW LONG HAS CHILD BEEN ON MEDICAID?

CHILD'S PRESENT MEDICAID PROVIDER:

PHONE/FAX:

CONTACT PERSON:

REFERRED BY BLS TO PROVIDER? DATE:

DATES OF PHYSICAL EXAMS BY THIS PROVIDER:

CHILD'S PREVIOUS MEDICAID PROVIDERS (IF ANY):

FOR EACH LEAD POISONING TESTING SINCE BIRTH:

DATE OF TEST:

EP TEST OR BLOOD LEAD TEST?

VENOUS OR CAPILLARY BLOOD TEST?

RESULTS [μg./dl.]:

DATES RESULTS RECEIVED BY:

PROVIDER:

CLIENT:

DOH:

[illegible]

HPD TRACKING SHEET FOR LEAD PAINT TESTING BEFORE THE CHILD IS POISONED

CLIENT'S NAME:

CHILD'S NAME: DOB:

ADDRESS:

DATE HPD RECEIVED COMPLAINT OF VIOLATION OR LEAD PAINT INSPECTION OTHERWISE TRIGGERED:

DATE OF HPD INSPECTION:
SUMMARY OF INSPECTION REPORT:
    SURFACES INSPECTED:

    TESTING PROCEDURES:

    RESULTS:

FOR EACH HPD REINSPECTION:

    DATE:

    SUMMARY OF REINSPECTION REPORT:
        ABATEMENT UNDERWAY/COMPLETE?

        SAFETY PROCEDURES USED?

FOR EACH NOTICE OF VIOLATIONS ISSUED:

    DATE ISSUED: DATE PROPERLY SERVED:

    NATURE OF VIOLATIONS CITED:

    SPECIFIC NATURE OF & PLANS FOR CORRECTION ORDERED, INCLUDING SAFETY PROCEDURES:

DATES & NATURE OF OWNER ACTIONS TO CORRECT VIOLATIONS, INCLUDING SAFETY PROCEDURES:

ORDERS TO STOP WORK? DATE ISSUED: DATE PROPERLY SERVED:

DATES & NATURE OF HPD ACTIONS TO CORRECT VIOLATIONS, INCLUDING SAFETY PROCEDURES:

DATE OF HPD VERIFICATION OF OWNER'S CORRECTION:

chcmtq.wp

DOH TRACKING SHEET FOR LEAD PAINT TESTING WHEN THE CHILD IS POISONED

CLIENT'S NAME:

CHILD'S NAME: DOB:

ADDRESS:

DATE DOH RECEIVED REPORT OF LEAD POISONED CHILD OR LEAD PAINT INSPECTION OTHERWISE TRIGGERED:

DATE OF DOH INSPECTION:
SUMMARY OF INSPECTION REPORT:
  SURFACES INSPECTED:

  TESTING PROCEDURES:

  RESULTS:

FOR EACH DOH REINSPECTION:

  DATE:

  SUMMARY OF REINSPECTION REPORTS:
    ABATEMENT UNDERWAY/COMPLETE?

    SAFETY PROCEDURES USED?

FOR EACH NOTICE OF VIOLATIONS ISSUED:

  DATE ISSUED: DATE PROPERLY SERVED:

  NATURE OF VIOLATIONS CITED:

  SPECIFIC NATURE OF & PLANS FOR CORRECTION ORDERED, INCLUDING SAFETY PROCEDURES:

DATES & NATURE OF OWNER ACTIONS TO CORRECT VIOLATIONS, INCLUDING SAFETY PROCEDURES:

DATE DOH REFERRED REPAIRS TO HPD:

DATES & NATURE OF HPD ACTIONS TO CORRECT VIOLATIONS, INCLUDING SAFETY PROCEDURES:

ORDERS TO STOP WORK? DATE ISSUED: DATE PROPERLY SERVED:

DATE OF DOH VERIFICATION OF CORRECTION:

clientq.tp

BRONX LEGAL SERVICES
579 COURTLANDT AVENUE
BRONX, NEW YORK 10451
TEL: (718) 993-6250
FAX: (718) 665-1657

PAULINE A. MULLINGS
Chairperson

WALKER T. THOMPSON
Project Director
LUCY BILLINGS
Director of Special Litigation

Schools/Infrastructure-Bridges Questionnaire
Potential Plaintiff Description

Please answer these questions about you, your knowledge of lead paint, and what you can do about lead in NYC.

1. What is your name? ______________________________

2. Where do you live (address)? ______________________________
____

3. What is your telephone number? ______________________________

4. Before today had you ever heard of health hazards to children from their schools or daycare? YES - NO

5. Before today had you ever heard of the danger of lead paint in schools or daycare centers?
How about the danger of asbestos to school and daycare children? YES - NO

6. Would it worry or concern you to learn that lead is a bigger danger to children than asbestos? YES - NO

7. Did you know that children exposed to lead when they are just one to three years old can lose some of their intelligence, develop learning disabilities, and later do poorly in school even though they may show no symptoms at all while they are being exposed? YES - NO

8. If you have children please fill out the following four lines starting with the youngest child(ren) first:

Name	Date of Birth	School or Daycare Child Attends
Name	Date of Birth	School or Daycare Child Attends
Name	Date of Birth	School or Daycare Child Attends
Name	Date of Birth	School or Daycare Child Attends

9. Where do you work or where do you spend most of each day? ______________________________

10. Did you complete the other side of this form? (If you did not, will you please do so?) YES - NO

PEB:\TASK\SCHOOLS.QUE

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11. Are you a member of any tenant, neighborhood, or community organization (like a Parents/Teachers Association, neighborhood association, or tenants group)? YES - NO

If so, what is the name of the organization? ____________________

12. Have you been active in any way to improve the education or health of your children? YES - NO

If so, how? ____________________

13. How far (in blocks) is the nearest elevated subway track (not the subway stop - the train tracks themselves) from your home? 1 2 3 4 5 6 7 8 9 10 Farther

How far is the nearest elevated subway track from your job? 1 2 3 4 5 6 7 8 9 10 Farther

What subway line is it? ____________________

14. How far (in blocks) is the nearest elevated highway (not the entrance - the road itself) from your home? 1 2 3 4 5 6 7 8 9 10 Farther

How far is the nearest elevated highway from your job? 1 2 3 4 5 6 7 8 9 10 Farther

What is the name of the highway or road? ____________________

15. How far (in blocks) is the nearest small or large bridge (train, foot, or car) from your home? 1 2 3 4 5 6 7 8 9 10 Farther

How far is the nearest bridge from your job? 1 2 3 4 5 6 7 8 9 10 Farther

What is the name of the bridge? ____________________

16. Have you ever seen dust or debris falling down during work on any of these steel structures? YES - NO

17. Could you tell if the workers were sandblasting? YES - NO

18. Sandblasting steel structures (to remove old paint and prepare for repainting) often sends pulverized and blasted paint down on the streets, people, and homes below. This lead increases health risks to children and adults living, working, or passing through the area. Does this worry you? YES - NO

19. Would you be interested in joining a law suit to better protect yourself (and your children if you have any) against the lead from bridges, subways, highways, schools, and/or daycare centers? YES - NO

20. Would you like to be considered for inclusion in one or more public interest law suits (that is, for a cleaner environment, not for money damages) to stop the spread of lead paint from steel structures and/or remove or cover the lead paint in children's schools and day care centers? YES - NO
Please sign below if you agree that we may enter you (if you are chosen) in such law suit(s).

____________________ ____________________
Signature Date

Thank you for taking the time to fill out this questionnaire! Did you fill out both sides? YES - NO
This form does not promise representation in these or any other matters.

Please be sure to → → →
complete other side → → →

TITLE OF MATERIAL: To Whom It May Concern

USE OF MATERIAL: Given for verification of lead test for schools, housing, and day care.

NSCH

North Shore Children's Hospital
A Charter Health Services Affiliate

57 Highland Avenue, Salem, Massachusetts 01970
(508) 745-2100

To Whom It May Concern:

This is to inform you that ______________________________ had a lead screening performed at North Shore Children's Hospital's Lead Program on ______________.

Carole Trahant, R.N.
Case Manager

NSCH

North Shore Children's Hospital
A Charter Health Services Affiliate

57 Highland Avenue, Salem, Massachusetts 01970
(508) 745-2100

To Whom It May Concern:

This is to inform you that ______________________________ had a lead screening performed at North Shore Children's Hospital's Lead Program on ______________.

Carole Trahant, R.N.
Case Manager

Date: ____________

CHILDHOOD LEAD POISONING PREVENTION
ASSESSMENT FORM

Child's name ____________ DOB ________ Class ______ Race ________

Parent's name ____________ DOB ________ Telephone # ____________

Address ____________ Apt. # ______ Emergency # ____________

____________________ Contact ____________

Own/rent ________ Section 8 ________ Single/multiple dwelling ______

Language spoken ____________ Interpreter needed ____________

Doctor ____________ Dr.Telephone ________ Last seen by Doctor ____________

Physical or bloodwork ____________________

Insurance/Medicaid # ____________ On AFDC ____________

Place of employment: Mother ____________ Father ____________

Siblings name ____________ DOB ________ Last Pb test (date/results) ______

____________ ________ ____________

____________ ________ ____________

____________ ________ ____________

____________ ________ ____________

HOME VISITS

BLOOD WORK DUE

Rx: ____________

____

D.S.S. ____________ Code Enforcement ____________

Early Intervention ________ Inspection ____________

WIC ____________ Deleading Began ____________

MEEC ____________ Complete ____________

Head Start ____________ Social Worker ____________

Family Medical History

1. Is there a family history of:
(specify family member)
Heart Disease ________________
Hypertension ________________
Cancer (what type?) ________
Diabetes ________________
T.B. ________________
Neurological ________________
Seizures ________________
Vision Problems ________________
Hearing Loss ________________
Mental Illness ________________
Retardation ________________
Alcoholism ________________
Drug Dependence ________________
AIDS ________________

2. Did mother take any medication or drugs during pregnancy? (if yes, please explain)

3. Was mother exposed to any renovations during pregnancy?

4. Were there any problems during pregnancy, delivery, etc.? (if yes, please explain)

5. Child's weight at birth ____________ Height ________________

6. Does this child have a history of any blood disorder? (i.e. low Fe, Sickle cell anemia)

7. Does this child have any of the following S & S?
Pallor ________
Constipation ________
Clumsiness ________
Developmental regression ________
Irritability ________
Vomiting ________
Behavior changes ________
Loss of appetite ________
Weakness ________
Lethargy ________

8. Was this child hospitalized? (if yes, when/where/why)

9. If hospitalization is related to plumbism - has the physician discussed a follow-up plan ? (if yes, please explain)

10. Is child currently taking any medications/vitamins?
Date started Dose Tolerance

11. Do you use any folk remedies?

12. Are immunizations current?

Developmental/Behavioral History

Is there a family history of:
(specify family member)
Behavior problems ____________ Learning problems ____________
Speech language problems ____________

2. At what age did child:
Roll over ____________ Sit up unassisted ____________
Reach for objects ____________ Stand ____________
Walk ____________ Babble ____________
Say first word ____________ Say short sentences ____________

3. Are developmental milestones appropriate for age?
Yes ______ No ______ Parent concerned ______

4. Compared to other children the same age, is this child:
More active ________ Less active ________ Same ________
More distractible ______ Less distractible ______ Same ______
Better at listening ______ Worse at listening ______ Same ______
Better at following directions ______ Worse ________ Same ______

5. Does child put hands, toys or nonfood substances in mouth?
Always ☐ Sometimes ☐ Never ☐

6. Does child chew or mouth window sills/casings?
Always ☐ Sometimes ☐ Never ☐

Does child pick at or eat plaster or paint?
Always ☐ Sometimes ☐ Never ☐

8. Has the child ever put the following objects in his/her mouth:
Metal ________ Jewelry ________ Bullets ________
Fishing sinkers ______ Tobacco items ______ Matches ______
Small batteries ______ Printed material ____________
Billiard chalk ______ Other ________________

Nutritional History

1. Source: _____Breast _____Formula _____Bottle _____Cup _____Solids
2. Intake: _______Adequate for age? ______Parent concerned (explain)

3. Is the water from faucet used for cooking and/or drinking?

4. Do you leave food in open cans?

5. Do you use any homemade pottery or dishes made in another country to store/prepare/serve food?

6. Describe on average day's menu.

Assistance: ________ WIC __________ Food Stamps ________Pamphlet

Reviewed diet high in Fe, Ca, and low in fat. Yes ☐ No ☐

Environmental History

1. What year was this house built? _______
   - DO NOT KNOW ☐

2. Have any renovations or remodeling been done while your have lived at this address? Yes ☐ No ☐
   (if yes, specify when, method and whether dust is visible)

3. Have there been any buildings demolished/renovated/sandblasted in your neighborhood? Yes ☐ No ☐

4. Any fires in the neighborhood? Yes ☐ No ☐

5. Any factories/heavy traffic in neighborhood/surrounding area?
   Yes ☐ No ☐

6. Do you grow your own vegetables? Yes ☐ No ☐
   (if yes, where and what)

7. Does any family member have access to: ______ paint, ______ putty, ______ gasoline, _______ car batteries, _______ solder, ______ insecticides, ______ shooting range? (if yes, explain)

8. When the child is inside where does he/she play most frequently?

9. Does this area have any loose paint or holes in plaster?
   Yes ☐ No ☐

10. When child is outside does he/she play in the dirt?
    Always ☐ Sometimes ☐ Never ☐

1. Does child eat dirt?
   Always ☐ Sometimes ☐ Never ☐

2. Does child eat snacks or drink bottle while playing outside?
   Yes ☐ No ☐ (if yes, specify area, i.e. soil, porch)

3. What is this child's favorite activity?

4. Does child spend more than 10 hours per week in another home or day care facility? Yes ☐ No ☐

Name	Address	Hours/Week

Identify person or persons responses to the following:

5. What do you think this child's lead elevation is due to?

16. How has this illness affected your family?

17. What are your family's major concerns at this time?

18. Would you like to speak with a family afflicted with lead poisoning?
Yes ☐ No ☐

19. If yes, do I have your permission to give your telephone number to a family in need of emotional support?
Signature ______________________________

Assessor's Checklist

				Date
1.	Explained lead poisoning and sources of lead?	Yes	No	_____
2.	Reviewed the appropriate medical follow-up for all family members?	Yes	No	_____
	Parent has a retest appointment?	Yes	No	_____
4.	Advised re screening schedule for siblings?	Yes	No	_____
5.	Advised of importance of good nutritional program?	Yes	No	_____
6.	Explained need for frequent hand washing?	Yes	No	_____
7.	Explained need for/what is involved in lead inspection?	Yes	No	_____
8.	Reviewed hazard reduction? Explained wet mopping with TSP, covering etc?	Yes	No	_____
9.	Advised of danger to family's health if in home during deleading?	Yes	No	_____
10.	Advised to flush pipes in AM with cold water?	Yes	No	_____
11.	Reviewed precautions to be used if family member has a lead related occupation or hobby?	Yes	No	_____
12.	Discussed alternative housing/day care during deleading?	Yes	No	_____
13	Info given re names/identities of program staff who may visit/call them?	Yes	No	_____
	Advised of financial/legal assistance?	Yes	No	_____

				Date
1	Advised to call office should they have any more questions?	Yes	No	_____
16.	Educational materials given? (if no, explain)	Yes	No	_____

What do you believe to be the child's probable sources of lead?

List Nursing Diagnoses and Intervention

Assessor ______________________________

Date ______________________________

VALUATION: (specify dates)

EVALUATION (continued)

[illegible]ce ____________ ______, has anyone in your household worked in a job
MONTH YEAR

[illegible]ncluded:

[illegible]AD LIST]: [ENTER CODE(S) ON LINES BELOW]

Battery work ....____ ......____ ......____

Metal work ....____ ......____ ......____

Oil refining ....____ ......____ ......____

Painting/Paint Removal ....____ ......____ ......____

Demolition ....____ ......____ ......____

Welding ....____ ......____ ......____

Chemical processing ....____ ......____ ......____

Plumbing ....____ ......____ ......____

Sandblasting ....____ ......____ ......____

Stained Glass Work ....____ ......____ ......____

Window replacement/Siding ....____ ......____ ......____

Computer manufacturing ....____ ......____ ......____

Autobody work ....____ ......____ ......____

Road stripe painting ....____ ......____ ......____

Metal recycling ....____ ......____ ......____

Radiator repair ....____ ......____ ......____

Target practice/Military ....____ ......____ ......____

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LABORATORY SLIPS

Lab slips need to contain information that local health departments need to find a child that has been identified as having an elevated blood-lead level. Missing information from a lab slip or lab slips lacking requests for information about the patient can cost as much as 20 percent of a nurse's time to trace a child. In large health departments this could amount to a week every month of one nurse's time.

The types of problems with lab slips are that

1) lab slips often do not ask for both the name of a child and the name of the parent or guardian. Parent or guardian names may differ from that of the child's.

2) The type of test used and method of collection is important to know because some use capillary, while others use venus for blood-lead tests. Some use EP tests. This information helps the health department know whether they need a confirmatory test (a venus) or need to get the child into treatment if a venus test shows an elevated level.

3) Funding source becomes increasingly important when local health departments are asked to provide a sliding scale, or seek repayment from Medicaid or other third party.

4) The child should be identified with a name (and identifying number, if needed), address, phone, and birthdate (the latter to avoid duplicates—there are many John Smiths). It also helps to have the parent's name to avoid duplicates.

5) The date the specimen was taken and the date the test was run helps to identify when the child should go into follow-up. Sometimes a health department is accused of not following up a case, only to find that the case was already old when they received information about it.

6) The name of the lab and the physician should also be included.

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NEWARK LEAD POISON CONTROL PROGRAM
110 William Street, Newark, N. J. 07102 (201) 733-6323

MUNICIPAL LABORATORY
110 WILLIAM ST., NEWARK, N.J. 07102
(201) 733-7640

PATIENT'S LAST NAME FIRST M. I.

MEDICAID NO

LAB NO.

STREET ADDRESS APT/FL

SPECIMEN TYPE
☐ 1. VENOUS ☐ 2. CAPILLARY ☐ OTHER

DATE SPECIMEN TAKEN

CITY STATE ZIP CODE

TYPE TEST
☐ 1 SCREENING ☐ 2 FOLLOW UP

SAMPLE COLLECTOR

DATE OF BIRTH (Mo., Day, Yr.)

SEX ☐ 1 Male ☐ 2. Fem.

PARENT/GUARDIAN

TELEPHONE NO

COMMENTS

SEND REPORT TO

NAME

STREET ADDRESS

CITY, STATE, ZIP CODE

TELEPHONE NO

FOR LAB USE ONLY

DATE RECEIVED

DATE REPORTED

RESULTS:
BLOOD —
EP ________ ug/dl
LEAD ________ ug/dl

HGB ________ gm/dl
HCT ________ %
CLASS ________

ANALYST

DIRECTOR

COMMERCIAL BUSINESS FORMS, INC.

IMPORTANT INSTRUCTIONS!

1. Print/type only. Press firmly, be clear.
2. Place return address and provider no. on page.
3. Tape (cellophane) Specimen to BACK of page.
4. Provide all information requested in areas provided.
5. Do not write in shaded/department areas.

CHILDHOOD LEAD POISONING PREVENTION PROGRAM

305 SOUTH ST.
JAMAICA PLAIN, MA. 02130

Date sample received - Record number

MM DD YY
Date sample taken

☐ (1) First test (2) Retest (3) Confirmatory

LAST NAME OF CHILD	FIRST NAME	INIT.	BIRTHDAY (MM DD YY)	SEX (M/F)
ADDRESS (INCLUDE APT. NO.)	CITY OR TOWN	ZIP CODE		
PARENT/GUARDIAN'S FIRST NAME	PARENT/GUARDIAN'S LAST NAME	TELEPHONE NO. (GUARDIAN'S)		
PATIENT I.D. NUMBER	RACE CODE	ANCESTRY CODE	HEALTH CARE COVERAGE ? Y/N	

Test Date	Pb(ug/dl)	Comment	EP(ug/dl)	Comment

Comments: Quantity not sufficient for testing (Qns.)
1. Insufficient amount 2. Clotted
3. Smashed 4. Sample not received
5. Capillary opened

Sample Type
0. Cap
1. V
2. F/Pb
3. F/S
4. V/S

Stamp page with provider number and full mailing address

Remarks:

PROVIDER NUMBER ____________

Report to

NAME ____________

NO. STREET ____________

CITY, STATE, ZIP ____________

TELEPHONE NO. ____________

Please Read This Carefully

Lead screening is required on children 1, 2, 3 and 4 years old. Some children need more frequent screening because they are more likely to be exposed to lead. Examples of high risk children include:

- Live in housing built before 1978 which has chipping paint or broken plaster.
- Live near smelters or whose family members work with lead.
- Have siblings, playmates or housemates who are lead poisoned.
- Live in houses built before 1978 which are undergoing renovation.

If you know of any possible lead hazards, please discuss this with your child's health care provider.

I have read and/or have had explained the information on this form about lead poisoning.

RACE CODES

1 Black
2 Hispanic
3 White
4 Asian/Pacific Islander
5 American Indian/Alaskan Native
6 Other (specify)
7 Unknown

ANCESTRY CODES

1 Puerto Rican
2 Dominican
3 Central American
4 Other Hispanic (including Mexican, Cuban, and South American)
5 Brazilian
6 Cape Verdean
7 Other Portuguese
8 Chinese
9 West Indian
10 Cambodian
11 Vietnamese
12 Laotian (including Hmong)
13 Other Asian (including Pacific Islander)
14 Pakistani/Asian Indian
15 European
16 African
17 North American
18 Other (specify)
19 Unknown

SIGNATURE ____________

DATE ____________

REVIEWED ____________

CLPPP-7 200M 2/91 814721

PROVIDER'S OFFICE COPY

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THE MARYLAND DEPARTMENT OF THE ENVIRONMENT

ANALYSIS FOR LEAD IN DUST

Date:______________________ Lab Number______________________

Samples Collected By:__________ Occupant's Name:________________

Agency:______________________ Address:______________________
Address:______________________ ______________________
______________________ ______________________
______________________ ______________________

Residents Waiting to Reoccupy Site? Yes/No
Sample Analysis: Rush/Non Rush

COMMENTS:____

____

SAMPLE NO.	LOCATION	SURFACE	AREA IN INCHES (LxW)	LAB RESULTS µg/pb/ft²	NOTES

Date Received:__________ Reported:__________ Analyst:__________

Remarks:____

Threshold Limit:	Floor	200 µg/ft²
	Window Sill:	500 µg/ft²
	Window Well:	800 µg/ft²

DE 269 (12.91)

Phone: 566-2490
Biochemistry

CONNECTICUT STATE DEPARTMENT OF HEALTH
LABORATORY DIVISION
P.O. BOX 1689 -- HARTFORD, CONN. 06101

10 Clinton St.

Collection Data and Analysis Report of Paint Samples for Lead

Collected by:

Report to:

Date Collected:

Date Rec'd. in Lab.

Date Reported:

Address of Specimen Collection:

Laboratory Number	Lab. Unit #	Collector's #	Identifying Location of Sample	% Lead

OL-191 (5-75)

PROFESSIONAL LABORATORIES, CONSULTANTS, CONTRACTORS

Laboratories and consultants providing environmental lead analysis in Central Virginia

The organizations listed below provide laboratory services and consultation for the identification of lead paint hazards. Contact individual firms to determine specific services provided and cost for these services. The Central Virginia Department of Health does not endorse the listed company but provides the listing for the convenience of persons seeking laboratory or related services. Please see "Lead Paint Hazard Fact Sheet #2: How to Identify Lead Hazards" for information about testing procedures and interpretation of test results.

Central Virginia Laboratories
and Consultants, Inc.
3100 Odd Fellows Road
Lynchburg, Va. 24501
(804)847-2852

Schneider Labs
104 Berrington Court
Richmond, Virginia 23221
1-800-785-5227

X-RF Testing

The organizations listed below will use portable X-RF equipment to test for the presence of lead based paint. They charge for their services. The Central Virginia Department of Health does not endorse the listed companies but provides the listings for the convenience of persons seeking additional information. Please see "Lead Paint Hazard Fact Sheet #2: How to Identify Lead Hazards" for information about the conduct of surveys using portable X-RF equipment, including interpretation of results.

Dewberry and Davis
8401 Arlington Boulevard
Fairfax, Virginia 22031
(703)849-0573

Kris Meek
Norfolk Health Dept.
401 Colley Avenue
Norfolk, Virginia 23506

Schneider Labs
104 Berrington Court
Richmond, Virginia 23221
1-800-785-5227

The Central Virginia Health Department will use portable X-RF equipment to test for the presence of lead based paint and does not charge for its services.

There are kits available to tell you if paint and other objects in your home have lead in them, but not how much, and they do not test for low levels of lead. Listed below are a number of kits available and companies which will provide lead test kits.

Lead Test Swabs
Hybrivet Systems
PO Box 1210
Farmington, MA 01701

James T. Davis, Inc.
3416 Candlers Mtn. Road
Lynchburg, Virginia
(804)846-2721

Frandon Lead Alert Kit
Frandon Enterprises
PO Box 300321
Seattle, WA 98103

Professional lead abatement is available through:

Strahle Construction
Don or Rebecca Meadows
40 Cedar Avenue
Vinton, Virginia 24179
(703)345-4572 or
(800)221-3060

Tracor-Applied Science
850 Green Brier Circle
Chesapeake, Virginia
(804)366-4600

For offsite removal of lead paint on radiators, please contact:

American Metal Crafters
3008 Odd Fellows Road
Lynchburg, Virginia 24501
(804)845-6000

Appendix 13.1: Wipe Sampling for Settled Leaded Dust

Wipe samples for settled lead dust can be collected from floors (both carpeted and uncarpeted), interior and sash/sill contact areas, and other reasonably smooth surfaces. These surfaces should be sampled using the vacuum sampling method in Appendix 13.2 or equivalent. Wipe media should be sufficiently durable so that it is not easily torn, but can be easily digested in the laboratory. Recovery rates of between 80-120% of the true value should be obtained for all media used for wipe sampling. Blank media should contain no more than 25 μg/wipe (the detection limit using Flame Atomic Absorption).

1. Wipe Sampling Materials and Supplies

a. Type of disposable wipe: Any wipe material that meets the following criteria may be used:

(i) Contains low background lead levels (less than 5 μg/wipe)
(ii) Is a single thickness
(iii) Is durable and does not tear easily (do not use Whatman™ filters)
(iv) Does not contain aloe
(v) Can be digested in tyhe laboratory
(vi) Has been shown yo yield 80-120% recovery rates from samples spiked with lead dust (not lead in solution)
(vii) Must remain moist during the wipe sampling process (wipes containing alcohol may be used as long as they do not dry out)

Examples of acceptable wipe media include: "Little Ones Baby Wash Cloths™," "Little Ones Baby Wipes Natural Formula™," or "Little Ones Baby Wipes Lightly Scented™," available at K-Mart Stores. This product is also available under the brand names "Pure and Gentle Baby Wipes™" and "Fame Baby Wipes™." Individually-packaged "Wash'n Dri Wipes" are also acceptable. "Wet Wipes," which are available at Walgreens and other stores, may also be used. Other brands are also acceptable if equivalence in both lead contamination (analysis of blanks) and laboratory digestion recoveries (analysis of wipes spiked with known amounts of leaded dust, not lead in solution) can be established. The wipes listed above have proven to be sufficiently durable under field use and to have acceptable recovery rates. Do not use "Little Ones Diaper Wipes," also available at K-Mart stores, or any other brand of wipes for which recovery data have not been established. Do not use wipes that contain aloe. Wipes that contain alcohol may be used as long as they do not dry out during the wipe process. Any wipe material that yields 80-120% recoveries can be used (measured on wipes spiked with lead dust, not lead in solution).

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b. Non-sterilized non-powdered disposable gloves. Disposable gloves are required to prevent cross-sample contamination from hands.

c. Non-sterilized polyethylene centrifuge tubes (50 ml size) or equivalent hard-shell container that can be rinsed quantitatively in the laboratory.

d. Dust sample collection forms contained in these Guidelines

e. Camera & Film to document exact locations (Optional)

f. Template Options

   i. Masking tape. Masking tape is used on-site to define the area to be wiped. Masking tape is required when wiping window sills and window wells in order to avoid contact with window jambs and channel edges. Masking tape on floors is used to outline the exact area to be wiped.

   ii. Hard, smooth, reusable templates made of laminated paper, metal, or plastic. Note: Periodic wipe samples should be taken from the templates to determine if the template is contaminated. Disposable templates are also permitted so long as they are not used for more than a single surface. Templates must be larger than 0.1 ft^2, but smaller than 2 ft^2. Templates for floors are typically 1 ft^2. Templates are usually not used for windows due to the variability in size and shape (use masking tape instead).

g. Container labels or permanent marker.

h. Trash bag or other receptacle (do not use pockets or trash containers at the residence).

i. Rack, bag, or box to carry tubes (optional)

j. Measuring tape

k. Disposable shoe coverings (optional)

2. Single Surface Wipe Sampling Procedure

a. Outline Wipe Area:

Floors: Identify the area to be wiped. Do not walk on or touch the surface to be sampled (the wipe area). Apply adhesive tape to perimeter of the wipe area to form a square or rectangle of about one square foot. No measurement is required at this time. The tape should be positioned in a straight line and corners should be nominally perpendicular. When putting down any template, do not touch the wipe area.

Window sills and other rectangular surfaces: Identify the area to be wiped. Do not touch the wipe area. Apply two strips of adhesive tape across the sill to define a wipe area at least 0.1 square foot in size (approx. 4 inches x 4 inches).

When using tape, do not cross the boundary tape or floor markings, but be sure to wipe the entire sampling area. It is permissible to touch the tape with the wipe, but not the surface beyond the tape.

b. Preliminary inspection of the disposable wipes:

Inspect the wipes to determine if they are moist. If they have dried out, do not use them. When using a container that dispenses wipes through a "pop-up" lid, the first wipe in the dispenser at the beginning of the day should be thrown away. The first wipe may be contaminated by the lid and is likely to have dried to some extent. Rotate the container before starting to ensure liquid inside the container contacts the wipes.

c. Preparation of centrifuge tubes:

Examine the centrifuge tubes and make sure that the tubes match the tubes containing the blind spiked wipe samples. Partially unscrew the cap on the centrifuge tube to be sure that it can be opened. Do not use plastic baggies to transport or temporarily hold wipe samples. The laboratory cannot measure lead left on the interior surface of the baggie.

d. Gloves

Don a disposable glove on one hand; use a new glove for each sample collected. If two hands are necessary to handle the sample, use two new gloves, one for each hand. It is not necessary to wipe the gloved hand before sampling. Use a new glove for each sample collected.

e. Initial placement of wipe:

Place the wipe at one corner of the surface to be wiped with wipe fully opened and flat on the surface.

f. First wipe pass - (side-to-side):

With the fingers together, grasp the wipe between the thumb and the palm. Press down firmly, but not excessively with both the palm and fingers (do not use the heel of the hand). Do not touch the surface with the thumb. If the wipe area is a square, proceed to wipe side-to-side with as many "S"-like motions as are necessary to completely cover the entire wipe area. (See step h for non- square areas.) Exerting excessive pressure on the wipe will cause it to curl. Exerting too little pressure will result in poor collection of dust. Do not use only the fingertips to hold down the wipe, because there will not be complete contact with the surface and some dust may be missed. Attempt to remove all visible dust from the wipe area.

g. Second wipe pass - (top-to-bottom):

Fold the wipe in half with the contaminated side facing inward. (The wipe can be straightened out by laying it on the wipe area, contaminated side up, and folding it over.) Once folded, place in the top corner of the wipe area and press down firmly with the palm and fingers. Repeat wiping the area with "S"-like motions, but on the second pass, move in a top-to-bottom direction. Attempt to remove all visible dust. Do not touch the contaminated side of the wipe with the hand or fingers. Do not shake the wipe in an attempt to straighten it out, since dust may be lost during shaking.

h. Rectangular areas (e.g. window sills):

If the surface is a rectangle (such as a window sill), two side-to-side passes must be made over half of this surface, the second pass with the wipe folded so that the contaminated side faces inward. For a window sill, do not attempt to wipe the irregular edges presented by the contour of the window channel. Avoid touching other portions of the window with the wipe. If there are paint chips or gross debris in the window sill, attempt to include as much of it as possible on the wipe. If all of the material cannot be picked up with one wipe, field personnel may use a second wipe at their discretion and insert it in the same container. Consult with the analytical laboratory to determine if they can perform analysis of two wipes as a single sample. When performing single-surface sampling, do not use more than two single surface wipes for each container. If heavily dust-laden, a smaller area should be wiped. It is not necessary to wipe the entire window well but do not wipe less than 0.10 ft^2 (approx 4" x 4").

i. Packaging the Wipe:

After wiping, fold the wipe with the contaminated side facing inward again, and insert aseptically (without touching anything else) into the centrifuge tube or other hard-shelled container. If gross debris is present, such as paint chips in a window well, make every attempt to include as much of the debris as possible in the wipe.

j. Labelling the Centrifuge tube:

Seal the tube and label with the appropriate identifier. Record the laboratory submittal sample number on the field sampling form (see Chapters 5 and 14).

k. Area Measurement:

After sampling, measure the surface area wiped to the nearest eighth of an inch using a tape measure or a ruler. The size of the area wiped must be at least 0.10

ft² in order to obtain an adequate limit of quantitation (25 μg/wipe is the typical detection limit with flame AA: 25 μg/0.10 square feet = 250 μg/ft², which is half of the HUD clearance criterion for interior window sills). No more than 2 square feet should be wiped with the same wipe or else the wipe may fall apart. Record specific measurements for each area wiped on the field sampling form.

l. Form Completion

Fill out the appropriate field sampling forms (see Form 5.4 or Form 14.2 in these Guidelines) completely. Collect and maintain any field notes regarding type of wipe used, lot number, collection protocol, etc.

m. Trash Disposal:

After sampling, remove the masking tape and throw it away in a trash bag. Remove the glove; put all contaminated gloves and sampling debris used for the sampling period into a trash bag. Remove the trash bag when leaving the dwelling. Do not throw away gloves or wipes inside the dwelling unit where they could be accessible to young children, resulting in a suffocation hazard.

Repeat steps a. through m. for additional samples in the same dwelling unit.

3. Composite Wipe Sampling

Whenever composite sampling is contemplated, consult with the analytical laboratory to determine if the laboratory is capable of analyzing composite samples. When conducting composite wipe sampling, the procedure stated above should be used with the following modifications:

When outlining the wipe areas (step a), set up all of the areas to be wiped before sampling. The size of these areas should be roughly equivalent, so that one room is not over-sampled.

After preparing the centrifuge tube, put on the glove(s) and complete the wiping procedures for all subsamples (steps e-i). A separate wipe must be used for each area sampled. After wiping each area, carefully insert the wipe sample into the same centrifuge tube (no more than 4 wipes per tube).

Once all subsamples are in the tube, label the tube. Record a separate measurement for each area that is subsampled on the field collection form (see Form 5.4a or Form 14.2a for a sample form). Finally, complete trash disposal (step m), making sure that no masking tape is left behind.

Risk assessors and inspector technicians do not have to remove their gloves between subsample wipes for the same composite sample as long as their gloved hands do not touch an area outside of the wipe areas. If a glove is contaminated, the glove should be immediately replaced with a clean glove.

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In addition to these procedural modifications, the following rules for compositing should be observed:

- Separate composite samples are required from carpeted and hard surfaces (*e.g.*, a single composite sample should not be collected from both carpeted and bare floors).

- Separate composite samples are required from each different component sampled (*e.g.*, a composite sample should not be collected from both floors and window sills).

- Separate composite samples are required for each dwelling

4. Blank Preparation

After sampling the final dwelling unit of the day, but before decontamination, field blank samples should be obtained. Analysis of the field blank samples determines if the sample media is contaminated. Each field blank should be labeled with an unique identifier similar to the others so that the laboratory does not know which sample is the blank (i.e., the laboratory should be "blind" to the blank sample).

Blank wipes are collected by removing a wipe from the container with a new glove, shaking the wipe open, refolding as it occurs during the actual sampling procedure, and then inserting it into the centrifuge tube without touching any surface or other object. One blank wipe is collected for each dwelling unit sampled or, if more than one dwelling unit is sampled per day, one blank for every 50 field samples, whichever is less. Also, collect one blank for every lot used. record the lot number.

5. Inspector Decontamination:

After sampling, wash hands thoroughly with plenty of soap and water before getting into car. A bathroom in the dwelling unit may be used for this purpose, with the owner's or resident's permission. If there is no running water in the dwelling unit, use wet wipes to clean the hands. During sampling, inspectors must not eat, drink, smoke, or otherwise cause hand to mouth contact.

6. Spike Sample Submission

Samples spiked with a known amount of lead dust should be inserted into the sample stream randomly by the person conducting field sampling to determine if there is adequate quality control of the digestion process at the laboratory. Dust-spiked wipe samples should be submitted blindly to the laboratory by the individual performing field sampling at the rate of no less than one for every fifty field samples. Any laboratory can spike wipe samples using the procedure in Appendix 14.3. The laboratory performing the analysis of the field samples can also prepare the spike sample as long as the person performing the field sampling makes the spike sample indistinguishable from the field samples. The person conducting the field sampling should take the spike sample prepared in the laboratory and relabel the container with an identifier similar to the other field samples. The spike sample wipe should not be put into another container. Spike samples should be made using the same lot as that used in the field.

A dust-spiked sample is defined as a wipe or filter containing a known weight of lead-based paint dust, measured to the nearest 0.1 μg of lead dust. A dust-spiked sample is prepared in a laboratory with the amount of lead-based dust present being between 50 - 1000 μg. For wipe samples, labs should use NIST Standard Lead Paint Dust (Standard 1578) or an equivalent secondary standard. See Appendix 14.3 for further details.

7. Field Qualifications of Dust Sampling Technicians

All individuals performing dust sampling should have state-certified training. Where possible, field experience in environmental sampling is preferable.

8. Quality Assurance/Quality Control

Blind analysis of spiked samples must fall within 80% - 120% of the true value. If the laboratory fails to obtain readings within the QA/QC error limits:

a. Two more spikes should be sent immediately to the lab for analysis.

b. If the two additional spike samples fail, the sample batch should be considered invalid. A full review of laboratory procedures may be necessary. Additional samples may need to be collected from the dwelling units from locations near the locations previously sampled.

If more than 50 μg/wipe is detected in a blank sample, the samples should be collected again since the media is contaminated. Blank correction of wipe samples is not recommended.

9. Other Information

See Chapter 5 and Chapter 14 for additional information on dust wipe sampling. Also see "Residential Sampling for Lead: Protocols for Lead Dust and Soil Sampling" from EPA.

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Appendix 13.2
Paint Chip Sampling

Dust sampling must always be done before paint chip sampling in order to minimize the prospect of cross-sample contamination. Paint chip sampling is a destructive method that may release a small quantity of lead dust. Although paint chip samples are to be collected from inconspicuous areas, the occupant must always be notified that paint chip sampling may be necessary.

1. Paint Chip Sampling Tools and Materials

a. Sharp stainless steel paint scraper (such as Proprep™ Scraper, $7.50, 1-800-255-4535) available at many paint stores

b. Disposable wipes for cleaning paint scraper

c. Non-sterilized non-powdered disposable gloves.

d. Hard-shelled containers (such as non-sterilized 50-ml polypropylene centrifuge tubes) that can be rinsed quantitatively for paint chip samples if results are to be reported in mg/cm^2. Ziplock baggies can be used only if results are to be reported in μg/g or percent by weight.

e. Collection device (clean creased piece of paper or cleanable tray)

f. Field sampling and laboratory submittal forms

g. Tape measure or ruler (if results are reported in mg/cm^2)

h. Ladder

i. Plastic trash bags

j. Flashlight

k. Adhesive tape

l. Heat Gun or other heat source operating below 1100°F to soften the paint before removal.

2. Containment

a. Method One: Plastic Sheeting Underneath Sampling Area

A clean sheet of plastic measuring four feet by four feet should be placed under the area to be sampled to capture any paint chips that are not captured by the collection device or creased piece of paper. Any visible paint chips falling to the plastic should be included in the sample. Dispose of the plastic after each sample is collected by placing the sheeting in a trash bag. Do not throw away the plastic at the dwelling. Wet wipes may be used to clean the area.

b. Method Two: "Glovebag" Approach

If further containment is deemed necessary, a "glovebag" approach may be used. A durable sheet of plastic is loosely taped to the surface to be sampled, with a paint scraper, collection device, and shipment container housed inside the plastic. There should be enough "play" in the plastic to permit a scraping motion without dislodging the tape holding the plastic to the surface. Large plastic baggies can be used in lieu of the sheet of plastic if paint chips are to be shipped to the lab in plastic baggies. Properly conducted, this method completely seals the surface during the actual scraping operation. A four by four foot sheet of plastic is still required under the glove bag to capture any debris that falls to the ground during the glove bag removal. The tape should be slowly removed from the surface to avoid lifting any additional paint off of the surface.

3. Paint Sample Collection

The paint chip sample need not be more than 1" x 1" in size. Persons collecting paint chips should wear new disposable gloves for each sample.

The most common paint sampling method is to scrape paint directly off the substrate. The goal is to remove all layers of paint equally, but none of the substrate. A heat gun should be used to soften the paint before removal to reduce the chances of including substrate with the sample and to help prevent sample loss. Including substrate in the sample will dilute the lead content if results are reported in µg/g or weight percent. Hold the heat gun no closer than six inches from the surface. Do not scorch the paint. Discontinue heating as soon as softening or blistering is observed.

Use a razor-sharp scraper to remove paint from the substrate. Paint samples collected in this fashion are usually reported in µg/g or % lead only. The sample may be placed in a baggie for shipment to the laboratory.

If the area sampled is measured exactly, and all the paint within that area can be removed and collected, it is possible to also report the results in mg/cm². All of the sample must be placed in a hard-shelled container for shipment to the laboratory. The hard-shelled container is used since the laboratory will analyze the entire sample submitted. The exact dimensions of the area sampled must be recorded on the field sampling form.

4. Composite Paint Chip Sample Collection

Paint chip samples may be composited by collecting individual subsamples from different surfaces. If results are reported in mg/cm², each subsample should be about the same size in surface area. If results are reported in weight percent or μg/g, each subsample should have about the same weight. The result is then compared to the standard for lead-based paint divided by the number of sub-samples (the composite standard). If the result is above this number, one or more of the samples must be above the standard. Each sample should be reanalyzed individually in this case. If the result is below this number, none of the sub-samples can contain lead above the standard. No more than 5 subsamples should be included in the same sample container or ziplock baggie. If both single-surface and composite samples are collected side-by-side, the individual samples can be submitted for analysis without returning to the dwelling if the composite result is above the composite standard. If the laboratory does not analyze the entire composite sample, it must use a validated homogenizing technique to ensure that all sub-samples are completely mixed together.

5. Cleanup and Repair

a. All settled dust generated must be cleaned up using wet wipes.

b. The surface can be resealed with new paint if necessary. If desired, apply spackling and/or new paint to repair the area where paint was removed.

c. Personnel conducting paint sampling should avoid hand-to-mouth contact (specifically, smoking, eating, drinking, and applying cosmetics) and should wash their hands with running water immediately after sampling. The inspector should ask to use the resident's bathroom for this purpose. Wet wipes may be used if no running water is available or if the bathroom is not available.

6. Laboratory Submittal

The samples should be submitted to a laboratory recognized by the EPA National Lead Laboratory Accreditation Program. Appropriate sample submittal forms should be used. The field sample number should appear on the field sampling form, the laboratory submittal form, and the container label. The name of the laboratory, the date the samples were sent to the lab, and all personnel handling the sample from the time of collection to the time of arrival at the laboratory should be recorded on a chain of custody form, if appropriate.

See Appendix 14 for the laboratory analytical procedures to be used.

7. Qualifications of Paint Sampling Technicians

All individuals performing paint sampling should be certified. Where possible, field experience in environmental sampling is preferable.

Appendix 13.3: Soil Sampling Protocol For Housing

A. Collection Technique General Description

Soil samples are typically collected with a coring device. The device may be used in either of two ways. Most coring devices come equipped with a "T" handle which can be attached to the top of the coring tool or probe. This allows the operator to push the tool into the ground. The coring tool can be twisted with the "T" handle as it is pushed into the ground in order to allow the cutting edge of the soil probe to cut through roots and packed earth. In softer soils, a disposable new plastic syringe at least ½ inch diameter can be used for each composite sample

The other method for using the coring tool is to attach a hammer device to the top of the coring tool. To utilize the coring tool in this manner, the hammer device is first attached to the top of the coring tool and the tip of the probe is placed on the ground where the sample is to be collected. The hammer is then raised and allowed to fall while it is guided by the operator's hands. The hammer attachment may be the most appropriate tool when the nature of the soils is hard and compacted. Otherwise the "T" handle is easier to use.

The soil samples are collected by driving or pushing the coring tool into the ground, usually about ½ inch deep. The tool is then moved gently from side to side to loosen a plug of soil. The tool is then pulled from the ground and the soil sample is pushed so that the upper part of the soil plug lies between one inch marks made on the coring device. The top one half inch of the soil sample is then cut from the core with a stainless steel knife or cutting tool provided for that purpose. This top one half inch section of the soil core is then transferred to a sample container. All sub-samples are collected in this manner. The collection of subsamples from the sampling line is referred to as a "composite" sample.

After collecting a composite sample, the soil probe should be decontaminated or discarded if disposable core samples are used. This process consists of wiping the end of the probe with wet wipes until no more visible dirt is removed from the probe. Similar cores are then collected from the bottom inch of the six-inch core.

After air drying in the laboratory, samples are sieved twice, once with a number 10 sieve with a mesh size of 2 millimeters. Only the fine sieved fraction is analyzed. All sieving takes place under a hood operating with an appropriate face velocity. The material passing the number 10 sieve is called the "total" fraction.

B. Materials and Supplies

1. Core sampling device: Standard soil coring device. Other similar core sampling devices may be used, such as disposable plastic syringes with the end cut off. The plunger is used to remove the soil from the syringe body.

7. The core sampler should be cleaned with a disposable wipe after each composite sample is collected. If a disposable core sampler is used, it can be used for all sub-samples, but not new composite samples unless it is cleaned thoroughly.

D. Laboratory Submittal

1. Submittal Form Preparation

The sample numbers on the sample container must be the same as those on the field sampling form and must also be used on the laboratory submittal form. Confirm that all samples recorded on are in fact present on the laboratory submittal form.

Chain of custody requirements should be followed if applicable.

E. Laboratory Analytical Procedure

1. Laboratories analyzing soil samples must participate in the Environmental Lead Laboratory Proficiency Testing Program or equivalent and be an EPA-NLLAP Accredited Laboratory.
2. Soil samples are received, logged in, opened and placed on drying plates, dried, and mixed thoroughly.
3. Sample sieving: Samples are to be sieved once with a number 10 sieve with a mesh size of 2 millimeters. Visible paint chips are disaggregated by forcing the paint chips and other large particles through the sieve by a rubbing motion. Sieving is always done under a laboratory hood.
4. Samples are oven dried to a constant weight and analyzed by EPA Method SW-846 or equivalent.

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PROTOCOL FOR COLLECTION OF DRINKING WATER SAMPLES

1.0 Introduction

Samples will be fixed-time (3 hour) stagnation samples collected from the kitchen sink faucet. First flush samples described in section 4.0 below will not be collected due to concerns for family cooperation and worker safety during early morning sampling. The samples are collected by first running the water for at least 2 minutes to clear the line of water standing in the pipe. The sample is collected as the "first-flush" sample after the fixed time interval. This type of sample would represent water standing in the house plumbing for a fixed amount of time. Lead-containing solder is the most common source of lead in drinking water.

Members of the household will be instructed to refrain from using any water from the kitchen tap until all water samples are collected.

2.0 Sampling Equipment and Supplies

Container for transporting - to keep sample bottles steady

Nalgene wide-mouth, high-density plastic bottles (500 mL).

Digital thermometer.

Barcode labels (twelve identical labels per sample with a unique sample number).

1-gal ziplock plastic bags.

Disposable vinyl gloves (powderless).

Sampling data forms.

Sample traceability forms.

3.0 Water Sampling Kits

Water sampling kit will consists of a wide-mouth Nalgene bottle (500 mL) containing twelve identical barcode labels packaged in two 1-gal ziplock bags. The collection bottle will be precleaned prior to use.

SP will transfer acid-cleaned Nalgene sampling bottles to the Sample Custodian who will add 20 mL of 25% (v/v) nitric acid solution to the bottle and prepare the sampling kits. One barcode label (1 of 12 identical labels) will be affixed to the outside surface of the Nalgene bottle. The bottle will then be placed into a 1-gallon ziplock bag and sealed. This bag will be placed into a second plastic bag containing the remainder of the corresponding barcode labels (11). The sampling team will take custody of the sampling kits by signing the sample traceability form provided by the Sample Custodian.

4.0 First Flush Water Sample

The following procedure will be used to collect the sample from the kitchen sink faucet:

- Don disposable shoe covering prior to entering the dwelling.

- Collect the first flush of water by placing the plastic container directly under the kitchen faucet before turning on the water and then filling the plastic container to the neck. The nitric acid solution will acidify the sample to a pH of less than 2.

- Seal the lid with tape (electrical tape or equivalent).

- Remove two corresponding barcode labels from the sampling kit and affix one on the sampling data form and the other to the sample traceability form.

- Record pertinent data on the sample data form (this will be performed by the team leader).

5.0 Fix-time Stagnation Drinking Water Sampling Procedure

Drinking water samples will be collected from the kitchen sink faucet at the end of the sampling survey at each dwelling. It is important to note the duration of time between the clearing of the line and time of sampling on the drinking water data form. This time is the duration that the water sample was in contact with the house plumbing. The following procedure will be used to collect the sample:

Remove two corresponding barcode labels from a water sampling kit and affix one on the sampling data form and the other to the sample traceability form.

Don a pair of clean vinyl gloves.

Upon entry into the housing unit, run the water from the kitchen faucet for two minutes to clear the line.

Instruct the occupants of the house to refrain from using any water from the kitchen faucet during the remainder of the survey until all drinking water samples are collected.

After 3 hours, don a pair of clean vinyl gloves. Remove the Nalgene bottle from one of the water sampling kits (inner bag) and remove the lid.

Remove the Nalgene bottle from one of the water sampling kits (inner bag) and remove the lid.

Place the opened bottle under the kitchen faucet and slowly open the cold water valve.

Collect the sample by slowly filling the plastic container to the neck with water from the kitchen sink faucet. When the bottle is filled, close the water valve.

Seal the lid with tape (electrical tape or equivalent).

Return the bottle to the original ziplock bag and seal.

Record the time that the sample is collected on the sample data form.

6.0 Collection of a Sequential Water Sample

A second drinking water sample will be collected from the same source immediately after collecting the drinking water sample following the same protocol as described above. This sample will be handled and shipped to the laboratory with the regular water samples.

7.0 Preparation of Field Blanks

A field blank will consist of a Nalgene collection bottle that will be handled in the field following the same protocol as described above except no water will be collected. The field blank sample will be prepared in accordance with the following procedure:

Remove two corresponding barcode labels from a water sampling kit and affix one on the sampling data form and the other to the sample traceability form.

Don a pair of clean vinyl gloves.

Remove the Nalgene bottle from one of the water sampling kits (inner bag) and remove the lid.

Close the lid without collecting a sample and seal with tape.

Return the bottle to the original ziplock bag and seal.

Record the time that the sample is collected on the sample data form.

The sample will be identified as a field blank on the sampling data form. Repackage the bottle in its original ziplock bag. The blank sample will be handled, packaged, brought back to Kennedy Institute with the regular water samples.

8.0 Contamination Avoidance

The following work practices will be instituted to prevent contamination of the sample and to prevent cross contamination between sampling sites:

The field team will don shoe covering prior to entering each dwelling to prevent cross contamination between sampling sites.

The water sampling kits should not be opened until needed in the field.

Clean disposable vinyl gloves will be donned prior to collecting the water samples.

9.0 Deviations from the Water Sampling Protocol

Every attempt shall be made to follow this sampling protocol. Deviations from the sampling protocols may compromise the data quality and completeness objectives of the project. In the pilot study, deviations from the protocols will generally fall into two categories: inadvertent deviations (procedural errors); and deliberate deviations (modifications to the protocol in response to unusual conditions encountered in the field).

In the case of inadvertent deviations from the protocol, the sampling team shall fully document the deviation on the sampling data form and immediately notify the Outreach Coordinator, the Project Manager, and the QC Officer. Corrective action(s) shall be taken to ensure that the situation is not repeated. If possible, samples affected by the inadvertent deviation should be recollected in accordance with the specified protocol prior to leaving the site.

Deliberate deviations from the sampling protocol must be approved in advance with a signed modification to the QAPjP. If time is critical, preliminary verbal approval may be granted by EPA. These verbal approvals will be followed up with a signed modification to the QAPjP. In either case, the sampling team should notify all parties concerned in a timely manner so that the approval mechanism can be expedited. The KI Project Manager is responsible for initiation of the QAPjP modification and acquiring the necessary approvals from EPA.

The Outreach Coordinator and QC Officer shall be notified by the sampling team when field conditions found at the sampling site do not allow full compliance with the protocol or when the protocol does not appear to apply to the situation. The condition/ situation shall be fully documented in a laboratory notebook. The Outreach Coordinator will in turn notify the Project Manager.

TITLE OF MATERIAL: Parents Request form

USE OF MATERIAL: This form is used by parents to request a lead inspection. This option is available to parents of children under the age of six years, regardless of child's blood lead level and status of property.

TARGETED AUDIENCE: Tenants and property owners

City of Worcester
Department of Public Health & Code Enforcement
25 MEADE STREET
WORCESTER, MASSACHUSETTS 01610-2715
TELEPHONE (508) 799-8534

nold Gurwitz, M.D.
COMMISSIONER

Joseph G. McCarthy
DEPUTY COMMISSIONER

Date: ________________

I, ______________________, request the Worcester Department of Public Health and Code Enforcement, Childhood Lead Poisoning Prevention Program to inspect my residence for lead paint.

______________________________________, ____________________
Street and number Apartment number or floor

Worcester, MA . ________________.
phone number

The child(ren) under the age of six (6) years who reside in this household is/are:

Name	birth date	Name	birth date
e	birth date	Name	birth date

I understand that the lead inspection requested will encompass all rooms of the dwelling unit, common areas, porches, and accessible exterior areas, as well as other buildings within the property lines. I further understand that if there is a child under six year of age in residence, and the inspection hereby requested identifies lead hazards in violation of Massachusetts General Laws, Chapter 111, section 197, and Regulations for Lead Poisoning Prevention and Control, section 460.750, such violations must be corrected at the property owner's expense. The owner must correct all violations within 120 days of receipt of an Order to Correct Violations, and submit a contract with a licensed deleader within 60 days of receipt. The Department shall initiate judicial proceedings against the owner if necessary to enforce compliance.

______________________ OR ______________________
Tenant Signature OWNER Signature

______________________ ______________________
Tenant Phone Number Owner Address

____
Owner Phone Number

ASE RETURN TO: WORCESTER DEPT. OF PUBLIC HEALTH AND CODE ENFORCEMENT
LEAD PROGRAM
25 MEADE STREET
WORCESTER, MA 01610

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TITLE OF MATERIAL: Request for Inspection of a Vacant Unit

USE OF MATERIAL: Mailed by request of owner by a member of the lead program.

The Commonwealth of Massachusetts
Executive Office of Human Services
Department of Public Health
Childhood Lead Poisoning Prevention Program
305 South Street, Jamaica Plain, 02130

Michael S. Dukakis
Governor

Philip W. Johnston
Secretary

David H. Mulligan
Commissioner

I, ______________________________, request that the following
Owner's Name

vacant unit(s) be inspected for lead paint hazards. ______________________
Street (Apt. #)

______________________________ ( )
City/Town Zip Code Telephone

If lead paint violations are found, I agree to the following:

1. All violations will be corrected before the unit(s) is leased,
2. Safety precautions and cleanup procedures recommended by CLPPP will be strictly followed in correcting lead paint violations and,
3. Families with young children will not be denied the unit(s) because of the presence of lead paint.

____
Owner/Owner Representative's Signature

____
Date

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Form No. 5(B)

H944 Environmental Lead Survey

For use by inspectors of local health department. Used to prompt questions to parents of lead poisoned children and keep a record by address of defective surfaces and resident information. Inspectors record the type of defect, amount of lead present by XRF, area of defect and treatment code preferred. Used in conjunction with Treatment Description form. This information is also used to estimate the approximate cost to perform abatement.

Milwaukee Health Department **H944**
Bureau of Consumer Protection and Environmental Health
Environmental Health Technology Division
H944 - ENVIRONMENTAL LEAD SURVEY

Inspector____________________ Date of Survey_____________ Number_________

Child's Name ____ Date of Birth ____________
Parents' Names ____ Priority ____________
Phone ____ Bloodlead ____________
Address ____ Date Test ____________
Apt No. ________ Upper ________ Lower ________ Where Test ____________

Type ____ Resur ____ Supp ____ New Address ____ New to Program ____ Rebleed

Owner: ______________________________
____
____
Phone # ______________________________

Type of Dwelling
Multiple __________
Duplex __________
Single __________
Mixed Use __________

Supplementals ____
____
____
____
____

Have you been visited by a Public Health Nurse or a Milwaukee Health Department Outreach Worker? ______ yes ______ no __________________ Date

Which two rooms does the child spend most of his/her time in?
______________________________ ______________________________

Has the child's blood lead level been re-tested? _______ yes _______ no

Does the child exhibit "hand to mouth" behavior? _______ yes _______ no

Any renovations to the home in the past year? _______ yes _______ no

How long at address _____ yr _____ mth: Siblings tested ____ yes ____ no

Condition of last address: ________________ good ________________ poor

Comments: ____
____
____
____
____
____

(H944 Rev. 8/93)

NAME: ______________________________ DATE: ______________

LEAD PAINT INSPECTION: Surface Condition
R=XRF Reading, mg/cm², C=Condition Code #1=Minimum Damage, 2=Medium Damage, 3=Extensive Damage, C/P=Chipped Peeling, Cr=Crack, H=Hole
T=Treatment Code, Q=Unit or Quantity, BI=BI Defects

FRONT PORCH	R	C	T	Q	BI
Rail					
Balusters					
Floor					
Deck					
Columns					
Skirt					
Ceiling/Trim					
Entry Door					
Frame/Thresh					

FOYER/HALL	R	C	T	Q	BI
Walls -North					
-East					
-South					
-West					
Trim					
Ceiling					
Doors					
Misc.					

LIVING ROOM	R	C	T	Q	BI
Walls-North					
-East					
-South					
-West					
Trim					
Ceiling					
Doors					
Windows:					
Interior					
Exterior					
Misc.					

DINING ROOM	R	C	T	Q	BI
Walls-North					
-East					
-South					
-West					
Trim					
Ceiling					
Doors					
Windows:					
Interior					
Exterior					
Misc.					

MISC. ROOM	R	C	T	Q	BI
Walls-North					
-East					
-South					
-West					
Trim					
Ceiling					
Doors					
Misc.					

KITCHEN	R	C	T	Q	BI
Walls-North					
-East					
-South					
-West					
Trim					
Ceiling					
Doors					
Windows:					
Interior					
Exterior					
Cabinetry					
Misc.					

PANTRY	R	C	T	Q	BI
Walls-North					
-East					
-South					
-West					
Trim					
Ceiling					
Doors					
Windows:					
Interior					
Exterior					
Misc.					

BATH	R	C	T	Q	BI
Walls-North					
-East					
-South					
-West					
Trim					
Ceiling					
Doors					
Windows:					
Interior					
Exterior					
Cabinetry					
Misc.					

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INTERIOR HALL	R	C	T	O	BI
Walls-North					
-East					
-South					
-West					
Trim					
Ceiling					
Doors					
Misc.					

BEDROOM	R	C	T	O	BI
Walls-North					
-East					
-South					
-West					
Trim					
Ceiling					
Doors					
Windows:					
Interior					
Exterior					
Closet:					
Door					
Wall					
Ceiling					
Trim					

BEDROOM	R	C	T	O	BI
Walls-North					
-East					
-South					
-West					
Trim					
Ceiling					
Doors					
Windows:					
Interior					
Exterior					
Closet:					
Door					
Wall					
Ceiling					
Trim					

BEDROOM	R	C	T	O	BI
Walls-North					
-East					
-South					
-West					
Trim					
Ceiling					
Doors					
Windows:					
Interior					
Exterior					
Closet:					
Door					
Wall					
Ceiling					
Trim					

MISC. ROOM	R	C	T	O	BI
Walls-North					
-East					
-South					
-West					
Trim					
Ceiling					
Doors					
Windows:					
Interior					
Exterior					
Cabinetry					
Misc.					

REAR HALLWAY	R	C	T	O	BI
Walls -North					
-East					
-South					
-West					
Trim					
Ceiling					
Doors					
Misc.					

REAR PORCH	R	C	T	O	BI
Rail					
Balusters					
Floor					
Deck					
Columns					
Skirt					
Ceiling/Trim					
Entry Door					
Frame/Thresh					

HOUSE	R	C	T	O	BI
Walls-North					
-East					
-South					
-West					
Eaves					
Trim					
Windows					
Doors					
Basement					
Windows					
Garage:					
Walls					
OH/Doors					
Ser/Door					
Misc.					

Lead Abatement Project Inspection Report

For use by inspectors and industrial hygienist of local health department. Serves as a check that contractors are following proper abatement, health , and safety standards. Used whenever an inspection of a job in progress is performed and to keep records on contractors. Developed by industrial hygienist and only changes with the local ordinance.

MILWAUKEE HEALTH DEPARTMENT
BUREAU OF CONSUMER PROTECTION AND ENVIRONMENTAL HEALTH
Environmental Health Technology Division

Lead Abatement Project Inspection Report

Inspector ________________ Date ___________ Permit No ____________

Project Address ____

Abatement Contractor/Company ______________________________________

Property Owner ____

Check Items NOT OK

INTERIOR PREPARATION AND ABATEMENT STANDARDS

_____ Permit obtained and displayed on worksite (66-22[4];[4]c)
_____ Occupants out of work area (66-22[5]b)
_____ Warning signs posted (66-22[5]a)
_____ Furnishings removed or covered in work areas (66-22[6]a)
_____ Entrances sealed with proper worker entrance barrier (66-22[6]b)
_____ Heating, ventilating, A.C. openings sealed (66-22[6]b)
_____ Floor covered in work area
_____ Incomplete work areas secured (66-22[5]b)
_____ Work areas being painted were properly cleaned (66-22[7]e)
_____ No Sanding; Grinding; Torch; Methylene Chloride (66-22[7]d)
_____ No sweeping in unsealed areas (66-22[7]d)
_____ Using HEPA vacuums only (66-22[7]d)

EXTERIOR PREPARATION AND ABATEMENT STANDARDS

_____ Dust control - windows and doors closed (66-22[8]b)
_____ Drop cloths properly attached 6 feet out (66-22[8]c)
_____ Abatement waste collected and properly stored (66-22[8]d,[10])
_____ Occupants out of work area (66-22 [5]b)

OCCUPATIONAL SAFETY AND HEALTH

_____ Proper respirators used when necessary (29 CFR 1910.134)
_____ Respirators worn properly (29 CFR 1910.134)
_____ Respiratory Protection Program available (29 CFR 1910.134)
_____ Disposable clothing worn
_____ No smoking, eating or drinking in the work area
_____ Personal hygiene practices
_____ Proper ladder and scaffolding use

OTHER ENVIRONMENTAL CONCERNS

_____ Waste disposal; dust & sludge-Contaminated clothing disposal, haz. waste, chips-bagged, tied, landfill (NR 181.16[4]) (66-22[10])
_____ No dust generated during transport (66-22[10])

Samples Taken (List locations, dates and sample numbers)

DUST

BULK/AIR

XRF READINGS

NOTES, COMMENTS and REFERALS:

TITLE: Lead-Based Paint Hazard Survey

Who uses this material?

Case managers in the community program called "First-Time Parents"

What is the purpose of the material?

To identify children or families who may be at risk for elevated lead levels before age 6-9 months

How is the material used in the program operations?

Case managers send them to lead program and follow-up may be done by outreach workers or environmental inspectors.

How and why was the material developed?

Prevention strategy, to identify and educate parents about lead before age 6 to 9 months.

Based on evaluations are there any plans for modification of the materials?

Not currently

Recommendations for modifying or improving the materials:

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LEAD-BASED PAINT HAZARD SURVEY

Name of Parent____________________________________
Address____
Phone____
Name of Child____________________________________
Date of Birth_____________________________________
Parent or Legal Guardian______________________________

INSPECTION

	Yes	No
1. Are there any paint chips around the outside of the house and/or peeling paint on the porch railing? Explain:____	___	___
2. Are there any cracks, holes, or peeling paint on any walls, ceilings, or windowsills? If yes, where?	___	___
living room ___ bathroom___ dining room ___ mother's bedroom ___ kitchen ___ baby's bedroom ___		
3. Is there peeling or flaking paint on the baby's bed?	___	___
4. Was the house built before 1977?	___	___
5. Are there any other children living in the house who have ever been diagnosed with lead poisoning?	___	___
6. Have there been any home renovations or remodeling within the last year involving paint removal (sanding or scraping)?	___	___
7. Do any people living in the house work with lead such as automotive repair, battery plant work, plumbing or use lead in hobbies?	___	___

Worker____
Phone____
Date of Visit____________________________________

Supporting First-Time Parents
City of Milwaukee Health Department
Childhood Lead Poisoning Prevention Program

======================Lead Program Use Only======================

Low risk________
Medium risk________
High risk________

NB-673
8/93

TITLE: Outreach Record and Directions for Record Management

Who uses this material?

Outreach workers, researchers, Public Health Nurses.

What is the purpose of the material?

To document home visits, interventions and education. Each child has an individual record.

How is the material used in the program operation?

Record management and information for children with lead levels 20-24.

How and why was the material developed?

When outreach worker visits home, need to have a legal document. It's a simple check of list with space for comments.

Based on evaluations are there any plans for modification of the materials?

Yes

Recommendations for modifying or improving the material:

Simplifying even more, for easier use and better readability.

LEAD OUTREACH RECORD

attach to H-1006

Name: ____________________

Birthdate ____________________

mo/day/yr		DONE	NOT DONE	N/A	COMMENTS:
	Blood Screening Site:				
	Date:				
	Lead Level ug /dl Cap. / Ven.				
	History of lead poisoning: Y N				
	When				
	Source of care:				
	History of lead poisoning in family: Y N				
	Who:				
	Lead Teaching:	▨	▨	▨	
	What is lead poisoning?				
	Who is at risk?				
	Sources: *(Circle problem areas)*	▨	▨	▨	
	Paint chips, paper, dirt, batteries, cigarettes, old toys, other				
	Behaviors: *(Circle problem areas)*	▨	▨	▨	
	Pica, thumbsucking, mouthing objects				
	Miscellaneous: *(Circle problem area)*	▨	▨	▨	
	Hobbies, Job, Folk Medicine				
	Prevention Teaching:	▨	▨	▨	
	Nutrition (high iron, high calcium, low-fat)				
	Handwashing				
	Literature given				
	Housekeeping				
	Monitoring behavior				
	Rebleed 3 - 6 months or per PCP				
	Test siblings / house mates				

LEAD OUTREACH RECORD

(continuation page)

VISIT mo/day/yr		DONE	NOT DONE	N/A	COMMENTS:
	Environmental Problem Areas: *(Circle and describe briefly)*	▨	▨	▨	
	Kitchen				
	Bathroom				
	Living room				
	Bedroom				
	Exterior				
	Remarks:				
	Environmental Teaching/Demo:	▨	▨	▨	
	Duct-tape				
	Cardboard				
	Plastic				
	High-phosphate detergent				
	HEPA-VAC				

CITY OF MILWAUKEE HEALTH DEPARTMENT • BUREAU OF PUBLIC HEALTH SERVICES

NB685 R 9/92

TITLE OF MATERIAL: How to Read a Lead Report

USE OF MATERIAL: Used by private inspector.

TARGETED AUDIENCE: Property owners

R. P. HOLMES ENVIRONMENTAL SERVICES

HOW TO READ A LEAD REPORT

Surfaces can be considered in violation:

1. If there is a POS in the Pb column
2. If there is a number greater than 1.2 in the Pb column

Surfaces are in violation when either of the above occurs and:

3. If the surface is accessible and mouthable (i.e. corners, sills, edges)
4. If paint is loose at any height

For example, a window sill below five feet is considered accessible and mouthable while a flat wall or baseboard with molding is not. However, if the paint on any surface is loose it must be made intact regardless of where it is located. But a surface that is intact today may chip and peel in the future. Also the information is necessary for making decisions concerning repairs and remodeling. A comprehensive report may take a little longer to do, but, it is your best protection against the hazards of lead paint today and tomorrow.

When laying out a chart (map) of the property, the letter A is used to designate the side of the house the property gets it's street address from. This is done regardless of where the "front" door is. Starting with the A side all others are given consecutive lettering in a clockwise manner (B, C, D). This chart is usually in the first or second page and generally takes the form of block diagram.

Rooms are numbered also clockwise, starting with romm in A-D corner of the house. The only rooms that are called by name are the kitchen, pantry and bathroom. If there is more than one floor to the same unit, the numbers of the rooms above should be consecutive with those below. That is, numbers in the same unit should never be repeated.

Other areas of the house are designated by common names such as the halls, stairs, and porches. There is also a garage and exterior report forms. Sometimes the area is not able to fit any of the existing forms and is added to the form given.

TITLE OF MATERIAL: Case Progress Report

SOURCE: Commonwealth of Massachusetts Childhood Lead Poisoning Prevention Program

USE OF MATERIALS: These forms are used by inspectors to document intervention and status of cases in progress.

INSPECTOR ____________

ADDRESS ____________ FL. ______ CITY/TOWN ____________

CHILD	D.O.B.	DATE	RESULT	DATE	RESULT	DATE	RESULT

PARENT ____________ TEL.# ____________ DOCTOR ____________

VICTIM ___ PARENT'S REQ. ___ OWNER'S REQ. ___ DAYCARE ___ OTHER ___ DELEADER ____________

LICENSE# ____________

OWNER ____________ PLEASE CHECK

ADDRESS ____________ TARGET AREA ______ REHAB UNIT ______

CITY/TOWN ____________ SECTION 8 ______ PROJECTS ______

TELEPHONE ____________ CHAP. 707 ______

OWNER OCC. YES ___ NO ___

BOOK ______ PAGE ______

DOCKET # ____________

CERTI. BIRTH CERTI. ______

DEED CERTI. COPY ______

CERTIFIED MAIL # ______

NOTICE SENT ______

CONSTABLE SERVICE ______

CONDITION OF STRUCTURE

G F P D R

PORCHES ______

WALLS ______

FLOOR ______

WINDOWS ______

ELECTRIC ______

PLUMBING ______

REF. CODE DEPARTMENT

DATE ______

INSPECTION DATE ______

COMPLIANCE DATE ______

VIOLATIONS ______

LL PAID ______

NO. VIOLATIONS ______

LL PAID ______

HOUSING PAID ______

REHAB. UNIT ______

REHAB. PAID ______

RE-INSPECTIONS ______

11TH DAY ______

31ST DAY ______

61ST DAY ______

RE-INSPECTIONS	SHOW CAUSE	COURT PROCEEDINGS
		COMPLAINT SOUGHT
		ARRAIGNMENT
		PRE-TRIAL
		PRE-TRIAL CONF.
		TRIAL
		APPEAL

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TITLE OF MATERIAL: Order to Correct Violations

USE OF MATERIAL: Issued by inspector when lead paint violations are present.

TARGETED AUDIENCE: Property owners

[illegible]lliam F. Weld
Governor
David P. Forsberg
Secretary
David H. Mulligan
Commissioner

The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
State Laboratory Institute
305 South Street, Boston, MA 02130-3597
617-522-3700, Fax 617-522-8735

• Childhood Lead
Poisoning
Prevention Program
800-532-9571

ORDER TO CORRECT VIOLATION(S)

Owner or agent of the property located at ______________________________:

Be advised that an agent of the Director of the Childhood Lead Poisoning Prevention Program has determined certain portions of the aforementioned residential property to be in violation of Massachusetts General Laws, Chapter 111, section 197 and the Regulations for Lead Poisoning Prevention and Control, 105 CMR 460.000, and in violation of the State Sanitary Code. The specific areas in violation are detailed in the accompanying "Lead Inspection Report."

Conditions exist in this residence which may endanger and/or materially impair the health of the occupants of these premises.

DECLARATION OF EMERGENCY

The Director of the Childhood Lead Poisoning Prevention Program declares that the presence of the aforementioned violation(s) has poisoned or presents an immediate danger of lead poisoning to one or more occupants of the premises and that this constitutes an emergency pursuant to Massachusetts General Laws (MGL), Chapter 111, section 198, within the meaning of the Sanitary Code, Chapter 1, Section 400.200(B).

ABATEMENT OF LEAD VIOLATION(S)

M.G.L. C.111, ss.190-199A and the Department of Labor and Industries Deleading Regulations, 454 CMR 22.00, as well as the Regulations for Lead Poisoning Prevention and Control require that only licensed deleading contractors conduct residential lead abatement. This means that you cannot conduct lead abatement yourself or hire anyone other than a licensed deleading contractor.

OTC - P1.LI 7/29/91

ORDER

You are hereby ordered to remedy all said violations within the following applicable deadlines:

(A) If you need to arrange financing to accomplish deleading:

(1) Within thirty days of your receipt of this Order to Correct Violation(s), you must provide to this agency written documentation of your efforts to secure financing. Examples include but are not limited to a copy of a loan application submitted to a lending institution or a governmental agency which offers home improvement and/or deleading loans. The documentation need not include those portions of a loan application which disclose personal financial data. The need for financial assistance does not relieve you of the obligation to obey this Order.

(2) Within sixty days of your receipt of this order, you must provide to this agency a copy of a signed and dated contract with a licensed deleader. The contract must specify that the deleading will be completed according to the following schedule:

(a) Violations of the interior of the dwelling unit and interior common areas must be abated within ninety days of your receipt of this Order. However, if windows are to be replaced and new windows have been ordered within ninety days of receipt of this Order, you shall have a total of one hundred and twenty days from receipt of this Order to install the new windows.

(b) Violations on the exterior of the residential premises and exterior common areas must be abated within one hundred and twenty days from your receipt of this Order.

OR:

(B) If you do not need to arrange financing to accomplish deleading:

(1) Within thirty days of your receipt of this Order to Correct Violation(s) you must provide to this agency a copy of a signed and dated contract with a licensed deleader. The contract shall specify that the deleading will be completed according to the following schedule:

(a) Violations of the interior of the dwelling unit and interior common areas must be abated within sixty days of your receipt of this Order. However, if windows are to be replaced and new windows have been ordered within sixty days of receipt of this Order, you shall have a total of ninety days of receipt of this Order to install the new windows.

(b) Violations on the exterior of the residential premises and exterior common areas must be abated within ninety days from your receipt of this Order.

PROSECUTION AND CIVIL PUNITIVE DAMAGES

Failure to comply with any of the deadlines stipulated above will require this agency to initiate criminal or civil proceedings against you within three working days. Compliance with this Order will be determined by the receipt of the appropriate documentation (including copies of loan applications, deleading contract, etc.) in this agency's office by the specified deadlines and/or by on-site reinspection. The law provides penalties of up to $500 for each day of non-compliance. In addition, you may become liable for civil punitive damages equal to three times any actual damages for failure to comply with this Order.

CORRECTION OF VIOLATION BY CODE ENFORCEMENT AGENCY

If the dangerous levels of lead are not abated within the time periods stipulated above, this agency may contract with a licensed deleader to correct the violation and bill the owner, or initiate court action to reimburse itself.

Brad Prenney

Director
Childhood Lead Poisoning
Prevention Program
Massachusetts Department of
Public Health

Inspector

OTC - P1.LI 7/29/91

TITLE OF MATERIAL: Letter

USE OF MATERIAL: This letter is used to follow up on lead determinations.

TARGETED AUDIENCE: Property owners

The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
State Laboratory Institute
305 South Street, Boston, MA 02130-3597
617-522-3700, Fax 617-522-8735

illiam F. Weld
Governor
David P. Forsberg
Secretary
David H. Mulligan
Commissioner

- **Childhood Lead Poisoning Prevention Program**
800-532-9571

Date: ______________________

____

____

____

Dear ______________________:

A lead paint determination was made of the property owned by you at ______________________ by ______________________ of the Childhood Lead Poisoning Prevention Program on ______________________. This determination revealed the presence of lead paint in violation of Massachusetts General Laws, Chapter 111, section 197.

Please contact this office at ______________________ as soon as possible to discuss your responsibilities in this case, and the material enclosed.

Massachusetts Lead Poisoning Prevention Regulations require that you provide to this office, within 60 (sixty) days of your receipt of this letter, a written contract with a licensed deleader to abate all lead violations existing in the dwelling unit, including interior and exterior common areas. You must provide the deleading contractor with a complete inspection report from a licensed lead paint inspector.

The deleading contract must be signed by the contractor and by you; it must specify that all violations on the interior of the unit and the interior common areas will be deleaded within 90 (ninety) days of your receipt of this letter, and that all exterior violations and/or window replacement will be complete within 120 (one hundred and twenty) days.

This Department is required by law to file a case against you in court if it has not received a copy of the deleading contract by

BEST COPY AVAILABLE

the sixty-first day, or if the above timelines for interior and exterior deleading compliance are not adhered to as documented by a private lead paint inspector. In a criminal case, you may be fined by the court up to $500 for each day of non-compliance.

Only contractors licensed by the Department of Labor and Industries as deleading contractors may engage in the removal, covering, or replacement of lead hazards. Neither you nor anyone in your employ nor the occupants of this unit may remove or cover any lead paint unless that person is a licensed deleading contractor.

The contractor must provide written notification to the Department of Labor and Industries, all residential occupants, the Board of Health, and the state Childhood Lead Poisoning Prevention Program (CLPPP) at least five days before any deleading work begins. It is your responsibility, as the owner of the premises, to make sure that the contractor sends the completed forms to all parties.

All occupants and pets must be out of the dwelling unit for the entire time that interior deleading work is in progress. They may not return until a licensed private inspector approves reoccupancy by conducting an on-site reinspection of the unit; this will be done after the final deleading clean-up. Deleaded surfaces are not to be repainted until after the inspector gives approval.

All work is to be done in a workmanlike manner, and the dwelling must be returned to a condition that meets the requirements of Chapter II of the State Sanitary Code. Scraped surfaces must be feathered and made smooth by the deleader prior to repainting. (Repaint only after reinspection). Deleaded windows and doors must have all panes of glass intact and must be weathertight.

You are required to provide written notice of the presence of lead paint to all other occupants of the building. "Notice to Tenants of Lead Paint Hazards" is enclosed for that purpose.

You are also required to send a copy of the inspection report and the enclosed order to all mortgagees and lienholders of record.

Questions regarding Department of Labor and Industries regulations should be addressed to the DLI office (617-727-1932). Questions regarding the Department of Public Health regulations should be addressed to the CLPPP central office (800-532-9571) or to me.

Sincerely,

Inspector
MDPH/CLPPP

TITLE OF MATERIAL: Letter of Initial Lead Inspection Compliance

USE OF MATERIAL: This form is used by lead inspectors when no lead violations exist at the time of the first lead inspection.

TARGETED AUDIENCE: Property owners

The Commonwealth of Massachusetts
Executive Office of Human Services
Department of Public Health
Childhood Lead Poisoning Prevention Program
305 South Street, Jamaica Plain, 02130

Michael S. Dukakis
Governor

Philip W. Johnston
Secretary

Deborah Prothrow-Stith, M.D.
Commissioner

LETTER OF INITIAL LEAD INSPECTION COMPLIANCE

DATE: ______________________

Dear ____________________:

This letter is to certify that I inspected your property located at ____________________, apartment no. _____, and relevant common areas, in the city or town of ____________, for dangerous levels of lead according to 105 CMR 460.730(A) through (F): Procedures for Initial Inspection, Regulations for Lead Poisoning Prevention and Control, and determined that there were no violations. The inspection was conducted on ____________________.

Please be advised that Massachusetts law requires that only certain residential surfaces be free of lead paint. Thus, this letter does not mean that your property contains no lead paint. The premises or dwelling unit and relevant common areas shall remain in compliance only as long as there continues to be no peeling, chipping, or flaking lead paint or other accessible materials and as long as coverings forming an effective barrier over such paint and materials remain in place.

Sincerely,

________________ ________________

Inspector Registration No.

Should you have any question about this letter, call the Department of Public Health at (617) 522-3700, ext. 188.

TITLE OF MATERIAL: Compliance Form

SOURCE: Commonwealth of Massachusetts Childhood Lead Poisoning Prevention Program

USE OF MATERIAL: This form is used by lead programs to record properties put in compliance.

ADDRESS/ STREET	FLOOR	INSPECTOR	DATE OF INSPECTION	DATE OF COMPLIANCE	LANDLORDS NOTES

TITLE OF MATERIAL: Letter

USE OF MATERIAL: This form is used to formally notify property owners of lead violations and their rights and responsibilities under the law. Whenever lead violations are found on a property the lead inspector mails this notice to the property owner along with a list of certified deleaders, a list of certified inspectors, and information on available funding.

TARGETED AUDIENCE: Property owners

The Commonwealth of Massachusetts
Executive Office of Human Services
Department of Public Health
Childhood Lead Poisoning Prevention Program
305 South Street, Jamaica Plain, 02130

Michael S. Dukakis
Governor

Philip W. Johnston
Secretary

David H. Mulligan
Commissioner

____

____
____
____

Dear ______________________________:

I have inspected the property at ______________________________ in ____________________ owned by you, and I have found lead paint in violation of Massachusetts General Laws, Chapter 111, section 197.

I urge you to contact me as soon as possible to discuss your responsibilities in this case, the violations included in the report and the material enclosed. You may reach me by calling (   ) ______________.

Massachusetts Lead Poisoning Prevention Regulations require that you provide to me, within ten days of your receipt of this letter, a written contract with a licensed deleader to abate the violations cited on the enclosed inspection report. The contract must be signed by the contractor and by you; it must specifv that all violations on the interior and interior common areas will be deleaded within thirty days from today, and that all exterior violations and/or window replacement will be complete within sixty days from today. If I do not receive a copy of the contract by the 11th day, I must by law file a criminal complaint against you in court. You may be fined by the court up to $500 each day, for each day of non-compliance.

Effective January 1, 1990, only contractors licensed by the Department of Labor and Industries (DLI) may engage in the removal, covering or replacement of known lead hazards. Neither you nor anyone in your employ nor the occupants of this unit may remove or cover any lead paint cited in the enclosed report unless that person is a licensed deleading contractor.

The contractor must provide written notification to DLI, all residential occupants, the local board of health and us, at least five days before any deleading work begins. It is your responsibility, as the owner of the premises, to make sure that the contractor sends the completed forms to all parties (blank form enclosed).

BEST COPY AVAILABLE

All occupants and pets must be out of the dwelling for the entire time that the interior deleading work is in progress. They may not return until I approve reoccupancy by conducting an on-site reinspection of the unit; this will be done after the final deleading clean-up. Deleaded surfaces are not to be repainted until I perform the reinspection.

All work is to be done in a workmanlike manner, and the dwelling must be returned to a condition that meets the requirements of Chapter II of the State Sanitary Code. Scraped surfaces must be feathered, made smooth and repainted (Repaint only after my reinspection). Deleaded windows and doors must have all panes of glass intact and must be weathertight.

You are required to provide written notice of the presence of lead paint to all occupants of the building. "Notice to Tenants of Lead Paint Hazards" is enclosed for that purpose.

You are also required to send a copy of the inspection report to all mortgagees and lienholders of record.

Questions regarding DLI regulations should be addressed to the DLI Central (617-727-3454) or regional offices. Questions regarding DPH regulations should be addressed to the CLPPP Central office (800-532-9571) or to me.

Sincerely,

Inspector
MDPH/CLPPP

OWNER RESPONSIBILITIES
per 105 CMR 460.000

460.100 The owner of a dwelling must delead whenever 1) there is a child under six residing there, 2) the owner receives an order to delead or 3) a court or MCAD has determined that discrimination has occurred

460.150 The deleading contractor must provide written notification to CLPPP, DLI, all residential occupants and the local board of health at least five days before any deleading work begins. It is the owner's responsibility to make sure that the contractor sends the completed forms to all parties.

Owners of property listed in the State Register of Historic Places must notify the Massachusetts Historical Commission immediately when they receive an order to delead or at least 30 days before starting preventive deleading

460.750 The owner is required to provide written notice of the presence of lead paint to all occupants of the building.

The owner must send a copy of the inspection report to all mortgagees and lienholders of record.

The owner must correct lead violations within 10 days of receiving an order to delead unless the owner has a written contract with a licensed deleader which specifies that all interior work will be completed within 30 days and all exterior work and/or replacement windows will be completed within 60 days; the enforcement agency must receive a copy of the contract within the 10 days.

TITLE OF MATERIAL: Notice to Owner and Tenants' Rights and Remedies

USE OF MATERIAL: This form is used to formally notify property owners and tenants of lead violations and their rights and responsibilities under the law. Whenever lead violations are found on a property the lead inspector mails this notice to the property owner along with a list of certified deleaders, a list of certified inspectors, and information on available funding.

TARGETED AUDIENCE: Property owners and tenants

William F. Weld
Governor
David P. Forsberg
Secretary
David H. Mulligan
Commissioner

The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
State Laboratory Institute
305 South Street, Boston, MA 02130-3597
617-522-3700, Fax 617-522-8735

• Childhood Lead
Poisoning
Prevention Program
800-532-9571

NOTICE TO OWNER AND TENANTS' RIGHTS AND REMEDIES

Address of Residential Premises/Dwelling Unit: ______________________

____

______________________ Date of Inspection ______________________

VIOLATION

It has been determined that the residential premises or dwelling unit and common areas at the above address contain dangerous levels of lead in paint or other coating in violation of M.G.L. C. 111, ss. 196 and 197 and 105 CMR 460.000, Regulations for Lead Poisoning Prevention and Control. The owner of the residential premises is required by M.G.L. C. 111, s. 197 to abate these violations whenever a child under 6 years of age resides on the property or in special cases when directed by local or state authorities.

This violation endangers or materially impairs the health, safety or well-being of persons occupying the premises. The violation was not caused by the occupants of the premises nor by any person(s) acting under the control of the occupants.

TENANTS' RIGHTS AND REMEDIES

The presence of the above violation entitles the occupants of the premises to the following statutory rights and remedies. These remedies are somewhat complex and occupants are advised to obtain legal assistance and/or legal advice before using any of them.

(1) Alternative Housing M.G.L. C. 111, s. 197 and 105 CMR 460.160(A) require that a dwelling unit or residential premises shall not be occupied while deleading is being conducted. The residential premises or dwelling unit cannot be reoccupied until deleading is completed, it is cleaned up according to procedures specified in 105 CMR 460.160(D), and it meets the conditions of a reoccupancy reinspection specified in 105 CMR 460.760(A). It is the responsibility of the landlord and tenant to work out an acceptable plan for alternative housing and any costs associated with alternative housing and/or rent abatement. Tenants under lease and tenants at will have legal rights applicable to this circumstance and are advised to seek legal assistance in those circumstances in which a satisfactory arrangement cannot be reached.

(2) Protection from retaliatory rent increases or eviction. The landlord may not increase rent or evict occupants in reprisal for their having reported a violation or suspected violation of the Lead Law. Landlords who threaten or take reprisals against a tenant for exercising his/her rights under M.G.L. C. 111, ss. 190-199A are liable for damages under M.G.L. C. 186, s. 18 and M.G.L. C. 93A.

(3) Rent withholding. (M.G.L. C. 239, s. 8A) After the landlord has been notified of the lead paint violations, the occupants may withhold rent as long as lead paint violations remain uncorrected, provided that they are up to date in rent when they start rent withholding.

To fully protect themselves against attempted evictions, occupants may need to place withheld monies in an escrow (separated savings) account. If these conditions are met, occupants may not be evicted for non-payment of rent or for any other cause which is not the fault of the occupants. However, as soon as the violation is certified as having been corrected, all withheld monies may have to be paid to the owner.

(4) "Rent receivership". M.G.L. C. 111, ss. 127C to 127J) The occupants and/or the Childhood Lead Poisoning Prevention Program may petition the court to allow rent to be paid into court rather than to the owner, provided that the occupant is up to date in rent. The court may then appoint a "receiver" who may spend as much of the rent money as is needed to correct the violation.

(5) Abatement of rent may be awarded through a court action under decisions of the Massachusetts Supreme Judicial Court case, Boston Housing Authority vs. Hemingway, 293 NE2d 831, 363 Mass. 184 (1973). In such an action, the court determines the value of the premises with violations and reduces the amount of rent due.

(6) Landlord liability - compensatory and punitive damages. Pursuant to M.G.L. C. 111, s. 199, the owner of any residential premises is financially liable for all damages associated with a case of childhood lead poisoning arising from his/her failure to abate lead paint, plaster or other lead hazards when a child under six years of age will reside or resides in the premises. The owner of any dwelling unit or residential premises, who is notified of a dangerous level of lead in paint, plaster or other material present upon his or her premises, and who does not satisfactorily correct or remove the dangerous conditions, shall in addition to actual damages, be subject to punitive damages, which are three times the actual damages found.

REPAINTING

Violations of the Lead Law constitute violations of the State Sanitary Code. Although repainting of surfaces from which lead paint or other coatings have been removed is not required for compliance with the Regulations for Lead Poisoning Prevention and Control, repainting of such surfaces is required under the State Sanitary Code, 105 CMR 410.021. It is important that deleaded surfaces be sealed and can be easily cleaned.

Repainting of deleaded surfaces on the interior of the dwelling unit and interior common areas must be completed within thirty days of the reoccupancy reinspection. Exterior surfaces must be repainted within thirty days of the compliance reinspection.

This requirement does not apply to surfaces where lead paint has been covered or a new fixture or surface installed to replace a leaded one.

Tenants are advised to call their local board of health if the required repainting is not completed as stipulated above.

BEST COPY AVAILABLE

Tenant Lead Inspection Findings Letter:

This letter was developed to reduce tenants' confusion about inspection reports resulting from environmental lead inspections performed in their homes. Tenants had complained about the complexity of inspectors' inspection reports, so the inspectors wrote this letter to accompany the report and facilitate tenants' understanding of the findings.

The report emphasizes parents' responsibility in reducing children's blood levels during the lag time between the initial inspection and final abatement. An improvement to the letter might be a short, general description of the lead hazards found in each dwelling; however, the inspectors in our program continuously face large time constraints and it is currently not feasible.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF HEALTH

To: Tenants of a dwelling inspected by the RI Department of Health for environmental lead hazards

Subject: Findings of significant environmental lead hazards

During a recent inspection of your residence by the RI Department of Health, hazards were found which put children at risk for lead poisoning. These hazards are identified in the enclosed inspection report. This report also serves as a legal notice to the landlord that these hazards must be repaired.

Until the repairs are made and the landlord complies with the law, there are several things you can do to keep your children safe from these hazards.

1. Find the hazards marked on the inspection report.

   Any area that has a check in the column marked **"Signif Hazard"** can be dangerous to children. Each page of the inspection report describes a separate room or area of the residence. The drawing on the second page of the report shows how the rooms are numbered.

2. Keep children away from hazards.

   As much as possible, keep children out of areas with hazards and keep windows marked as hazards closed. If it is an area children use, then you need to either cover this area, clean it well or find other ways to keep your children out of danger. The enclosed pamphlet gives some suggestions.

3. Clean daily if possible.

   In general, levels of lead in house dust are high. Regularly mopping floors, washing window sills and wells, and vacuuming rugs and furniture can help reduce your child's lead exposures.

If you have any questions about this report, please call 277-1417.

Sincerely,

BEST COPY AVAILABLE

Donna L. Salley
Environmental Lead Inspector

CANNON BUILDING, Three Capitol Hill, Providence, Rhode Island 02908-5097
Telecommunication Device for the Deaf (TDD): 277-2506

TITLE OF MATERIAL: Residential Lead Abatement Advisory

USE OF MATERIAL: This form is used to formally notify property owners of lead violations and their rights and responsibilities under the law. Whenever lead violations are found on a property the lead inspector mails this notice to the property owner along with a list of certified deleaders, a list of certified inspectors, and information on available funding.

TARGETED AUDIENCE: Property owners

The Commonwealth of Massachusetts
Executive Office of Human Services
Department of Public Health
Childhood Lead Poisoning Prevention Program
305 South Street, Jamaica Plain, 02130

William F. Weld
Governor
David P. Forsberg
Secretary
David H. Mulligan
Commissioner

RESIDENTIAL LEAD ABATEMENT ADVISORY

The process of abating lead paint is very dangerous. For this reason, the Department of Labor and Industries' Deleading Regulations, 454 CMR 22.00, require that only a certified or licensed deleading contractor can remove or cover lead paint, or replace a fixture or surface coated with lead paint. Regulations for Lead Poisoning Prevention and Control, 105 CMR 460.000, have additional requirements to make sure that occupants of a dwelling unit are not exposed to lead hazards. The most important requirement is that the dwelling unit not be occupied while the unit is being deleaded. It is very important that occupants think carefully about what their daily needs will be during the time they are away from home, and take along all that they will need. No one should return to a dwelling unit undergoing deleading. Both property owners and tenants must take their responsibilities seriously and cooperate fully to assure the protection of all concerned. Tenants, property owners or other residents should not interfere with the work being completed safely.

Tenants of the unit to be deleaded and other residents must receive written notification t least five days prior to the beginning of any lead paint removal/abatement. All furnishings and possessions of every type should be removed or stored in plastic bags in non-work areas. This includes all children's clothing, toys, stuffed animals, bedding, etc. Everything should be removed and closets must be emptied. Possessions not removed from the work area should be put in plastic bags and left in the center of the room, only as a last resort. The reasons for this extensive precautionary measure is to protect every household article from lead dust contamination. Very fine dust is extremely hazardous and especially difficult to remove.

A very thorough final clean-up will be conducted by the deleader no sooner than 24 hours after the completion of active deleading. This is to ensure that fine airborne particulate will settle out and be removed in the final clean-up. Occupants can return only after a lead inspector determines that a residential premises or dwelling unit is safe for occupants to return to through the reoccupancy reinspection. Occupants should leave a phone number where they can be reached so that the inspector can notify them when it is safe to return home.

While there is no substitute for deleading and thorough clean-up to protect children from lead exposure, there are some important steps that can be taken even before deleading occurs. Your public lead inspector's advice and counsel should be carefully followed because of their personal knowledge of your child's home environment.

As part of their normal behavior, young children place things in their mouths, especially toys, and their own fingers. If there are paint chips and dust in your home, they may end up in your child's mouth. Children's toys pick up lead dust, as will food and candy that falls on the floor and most of all, their fingers. It is especially important to wash your child's toys, and to try to keep your child's hands clean, particularly at meal time.

Areas where there are peeling, chipping, or flaking lead paint and dust should be cleaned. Wet sponging and mopping with detergents containing phosphate, like tri-sodium phosphate, are best for this type of cleaning. Windows sills are often a major source of lead exposure. They should be periodically cleaned if paint dust or flakes collect there. If they are in poor condition, the best thing to do may be to keep the lower sash closed and open only the upper *sash for ventilation*. Contact paper may be applied to areas of peeling paint on window sills, walls, or other surfaces as a temporary measure. We do not recommend that you use your vacuum cleaner to clean up paint chips because it will disperse fine particulate into the air. Sometimes furniture can be moved to form a child-protective barrier to cover deteriorating paint or plaster. If deteriorating paint or plaster is in the child's bedroom, use another room as the child's room, if possible. Think of those parts of the home where your child spend most of his or her time, and try to keep them as clean as you can before deleading.

Lead paint can contaminate soil. If the exterior surfaces of your home have chipping, peeling or flaking lead paint, do not allow your child to play in the soil around the house and be careful not to track soil from these areas into the house. Follow the advice of your code enforcement inspector about soil on your property.

BEST COPY AVAILABLE

TITLE OF MATERIAL: Notice to Tenants of Lead Paint Hazards

USE OF MATERIAL: The lead inspector mails this form to tenants residing on properties where lead violations exist.

TARGETED AUDIENCE: Tenants of properties with lead violations

The Commonwealth of Massachusetts
Executive Office of Human Services
Department of Public Health
Childhood Lead Poisoning Prevention Program
305 South Street, Jamaica Plain, 02130

Michael S. Dukakis
Governor

Philip W. Johnston
Secretary

Deborah Prothrow-Stith, M.D.
Commissioner

NOTICE TO TENANTS OF LEAD PAINT HAZARDS

Dangerous levels of lead in violation of the Lead Law (M.G.L. C. 111, ss. 190-199A) and the Regulations for Lead Poisoning Prevention and Control (105 CMR 460.000) have been found in apartment no. __________, in this building. Children exposed to lead paint hazards are at risk of contracting lead poisoning. This disease affects the normal behavioral and intellectual development of children, especially children under the age of 6 years.

If you have children under six years of age, it is important that they be screened for lead poisoning on a periodic basis. If your child has not been screened recently, you should request your child's doctor or health care provider to perform the screening. Screening is the only way lead poisoning can be detected.

Since lead paint has been found in a unit in this building, it is quite possible that your unit may have lead paint too. If you have children under six years of age, you are advised to speak to your landlord about having your apartment inspected for lead paint. You can call your local board of health for a lead inspection, or call 1-800 532-9571 for further advice. It is against Massachusetts law for landlords to discriminate against tenants because of lead paint hazards in their apartment, or to threaten or take reprisals against tenants.

You will receive a notice five days in advance of the date on which deleading will begin in the unit stated above. While the deleading is being conducted, keep your children out of the areas being worked on. Common hallways, staircases and porches may be deleaded. Use an alternative staircase during this process. If your unit is on the same floor on which deleading work is being done, be sure that your doorway is temporarily sealed with masking tape or similar material so that fine lead dust cannot be blown in, around or under the door. If you do not have an alternative means of exit from your apartment, speak to your landlord or the deleading contractor, to coordinate the work. Check window sills and doorways for visible dust after deleading. Lead dust can be cleaned-up with a high phosphate detergent, like tri-sodium phosphate. If you notice lead dust from deleading in your apartment, notify the deleading contractor.

Properly conducted, deleading work should not result in lead dust contamination of your building. If lead paint dust or paint debris is not properly cleaned up at the end of the workday, or if work areas are not properly contained to prevent dust and debris from being dispersed, notify your landlord or call the Department of Labor and Industries at the numbers on the reverse side of this notice.

BEST COPY AVAILABLE

The Commonwealth of Massachusetts
Executive Office of Labor
Department of Labor and Industries
Division of Industrial Safety
Leverett Saltonstall Building, Government Center
100 Cambridge Street, Boston 02202

Lead Removal Program

Division of Industrial Safety

Boston	Douglas Dewar, Manager	617-727-6155
	George Gonnella, Inspector	
	Paul Petrowski, Inspector	617-727-1933
	Peter Smith, Inspector	
	Brian Wong, Inspector	
New Bedford	Michael DiPietro, Supervisor	617-727-4994
	Gary Gaspar, Inspector	
	Don Linhares, Inpsector	
Lawrence	Robert Lamarre, Supervisor	617-727-0611
Worcester	Stuart King, Superv sor	508-792-7635
	Teresa Dominguez, Inspector	
	Michael Ward, Inspector	
	Steven Troiano, Inspector	
Springfield	Edmund Fredette, Supervisor	413-734-1421
	Gregory Komer, Inspector	
	William Lambert, Inspector	
Pittsfield	Raymond Whalen, Supervisor	413-445-4214
	Jon Lifvgren, Inspector	
	Richard Walsh, Inspector	

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rev 2/3/89

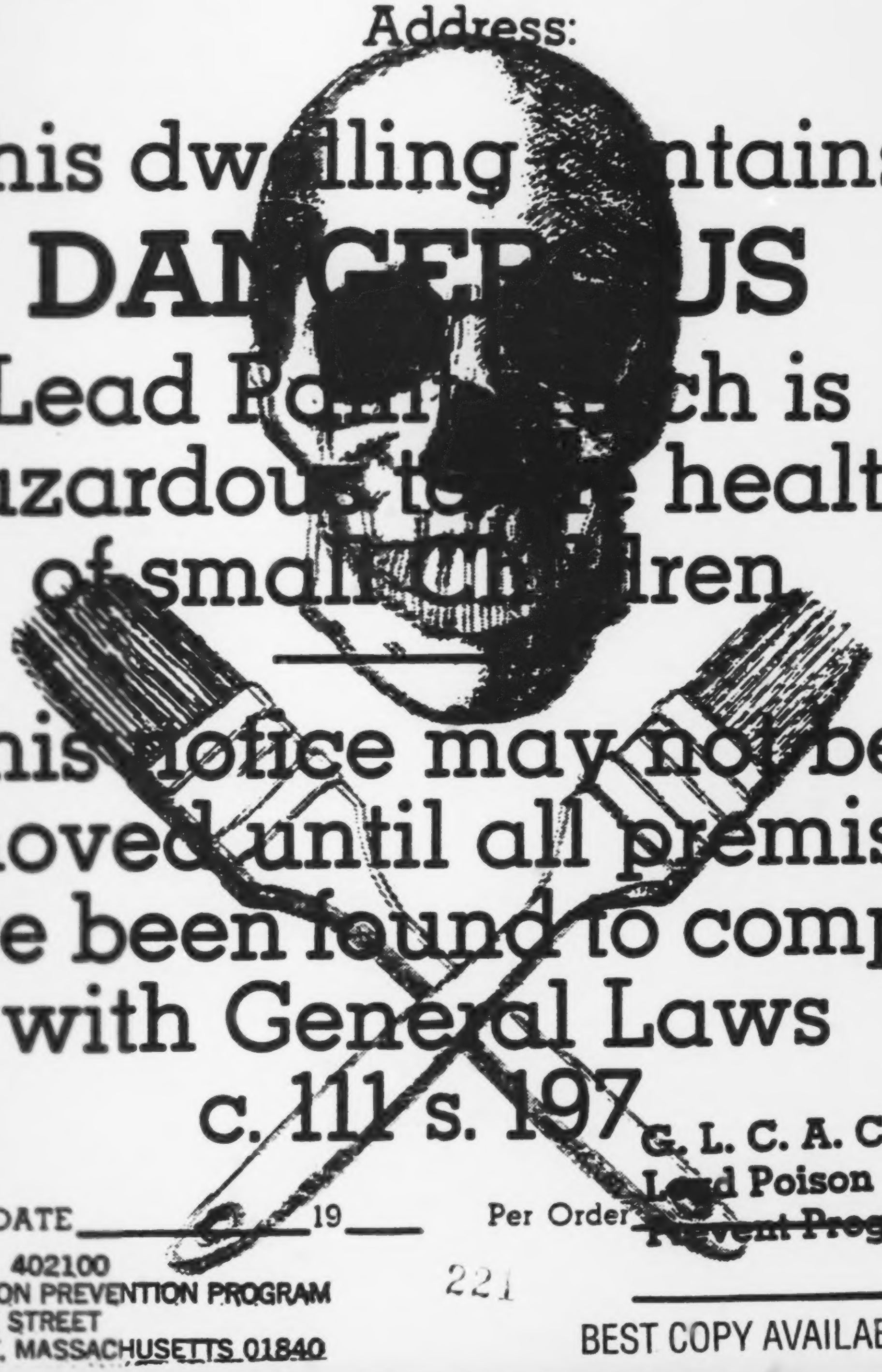
TITLE OF MATERIAL: Posting

USE OF MATERIAL: This form is posted by inspectors when a hazardous level of lead is found in a building.

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH
Childhood Lead Poisoning Prevention Program
305 South Street, Boston 02130

Date Posted: Owner:

Address:



This dwelling contains

DANGEROUS

Lead Paint which is
Hazardous to the health
of small children.

This notice may not be
removed until all premises
have been found to comply
with General Laws
c. 111 s. 197

DATE __________ 19___ Per Order __________

G. L. C. A. C., Inc.
Lead Poison
Prevent Program

____

G.L.C.A.C. 402100
LEAD POISON PREVENTION PROGRAM
350 ESSEX STREET
LAWRENCE, MASSACHUSETTS 01840

221

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TITLE OF MATERIAL: Letter of Lead Paint (Re)Occupancy (Re)Inspection Certification

The Commonwealth of Massachusetts
Executive Office of Human Services
Department of Public Health
Childhood Lead Poisoning Prevention Program
305 South Street, Jamaica Plain, 02130

Michael S. Dukakis
Governor

Philip W. Johnston
Secretary

David H. Mulligan
Commissioner

LETTER OF LEAD PAINT (RE)OCCUPANCY (RE)INSPECTION CERTIFICATION

THIS NOTICE DOES NOT CONSTITUTE DELEADING COMPLIANCE

Date: ______________________

Dear ______________________________ :

This letter is to serve as notification that a (re)occupancy (re)inspection was performed at ____ in the City or Town of ____________________ and all applicable common area and interior surfaces have met the conditions for (re)occupancy set in 105 CMR 460.760 (A). This notice does not constitute deleading compliance.

Prior to the (re)occupancy (re)inspection, all sanding was completed and no additional sanding will be permitted following the clean-up provisions required by 105 CMR 460.160 (D). No other interior abatement may occur unless the conditions of 105 CMR 460.160 (A) through (E) are repeated.

As this is only notification that the conditions for (re)occupancy have been met, no letter of compliance will be issued until all applicable exterior surfaces have been abated according to 105 CMR 460.000 and 454 CMR 22.00 by ______________________________
Date

If applicable, documentation has been provided that windows will be replaced by____________________. The conditions stated
Date
in 105 CMR 460.160 (A) - (E) must be observed when replacement window installation occurs.

Sincerely,

____
Inspector DPH License No.

Environmental Lead Management Plan:

Due to RI's requirements for "lead safe" conditions in abated homes, homeowners must actively maintain their dwelling's lead safe status once abatement has occurred. The Environmental Lead Management Plan is given to landlords so they can meet the requirements of visually inspecting their property for new lead hazards, educating tenants about flushing water and cleaning dust and dirt, and hiring a certified lead inspector to reinspect the dwelling on and distributing the Lead Management Plan to landlords.

Improvements could be made on the educational materials that accompany the Plan. Currently, the educational materials are on plain white paper; a more durable material and a more visually pleasing layout might be better for long-term effectiveness.

ENVIRONMENTAL LEAD MANAGEMENT PLAN

RHODE ISLAND DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH RISK ASSESSMENT

Rhode Island Law requires compliance with this Environmental Lead Management Plan.

This plan is intended to help you document the maintenance of lead-safe conditions on your property. Specifically, this plan will focus on the maintenance of lead-safe conditions in paint, soil, dust, and water.

Your basic responsibilities as a property owner are to:

1. Visually examine paint and soil surfaces for hazardous conditions every two or four months;
2. Distribute educational materials to tenants regarding lead in dust and water; and
3. Annually hire a professional lead inspector to conduct a reinspection of the property.

Please complete these forms and keep them for your records.

OWNER AND PROPERTY INFORMATION

Owner Name: ____________________ Phone: ______________________

Owner Address: ____

Property Address: ____________________________
Inspected
____
____

RI LICENSED LEAD INSPECTOR INFORMATION

Inspector Name: ____

Inspector Signature: ______________________________________

Phone: (401) 277-3424

Date of Management Plan Preparation: _______________________

VISUAL EXAMINATION OF LEADED PAINT SURFACES AND SOIL

Below is a list of interior rooms, exterior surfaces, and ground cover of your property that are considered "lead-safe" in their current condition. It is your responsibility to maintain these lead-safe conditions on your property. During the months indicated below, you should visually examine the lead surfaces and soil cover to confirm their lead-safe status.

INSTRUCTIONS

(1) Any rooms* with components (i.e.- walls, doors, windows, ceilings) that have damaged or non-intact paint surfaces should be recorded H (hazardous), or otherwise S (safe).

(2) Any soil cover that is disturbed or missing should be recorded H (hazardous), properly maintained soil cover should receive an S (safe).

(3) **All lead hazards should be promptly corrected in accordance with the RI Rules and Regulations for Lead Poisoning Prevention**

H = HAZARDOUS
S = SAFE

ROOM/AREA TO BE INSPECTED	DATE OF VISUAL INSPECTION						
Owner/Owner's Agent Initials							

*Please refer to attached floor plan for room location

DISTRIBUTION OF EDUCATIONAL MATERIALS - LEAD IN DUST AND WATER

A family's risk of exposure to environmental lead can be reduced by routinely performing certain household activities, such as proper cleaning/dusting and flushing water taps before use. Enclosed are educational pamphlets and warning signs that should be distributed every four months or upon entry of new tenants to your property.

On the basis of laboratory tests on water samples, your tenants should be advised to (inspector circle one):

1. Flush water from this faucet for at least one minute before drinking;
2. Flush water from this faucet for at least one minute before drinking and do not drink more than 1/2 liter each day;
3. Do not drink any water from this faucet.

ANNUAL PROFESSIONAL LEAD REINSPECTION

A reinspection (in accordance with Section C.1.4(c) of the RI Rules and Regulations for Lead Poisoning Prevention) of your property for lead hazards should be conducted by a R.I. certified lead inspector or technician by ___________ (date). Any newly identified lead hazards should be promptly corrected. The information below should be completed by the certified professional performing the reinspection.

____
Lead Inspector Name

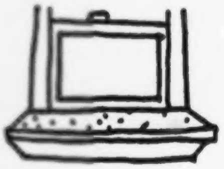
____
Lead Inspector Signature

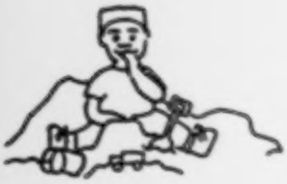
____
Date of Inspection

WET CLEANING LEAD DUST

Children can become lead poisoned from lead in dust.

Sometimes lead paint can become ground up into dust. This dust will get mixed in with regular dust in your house.



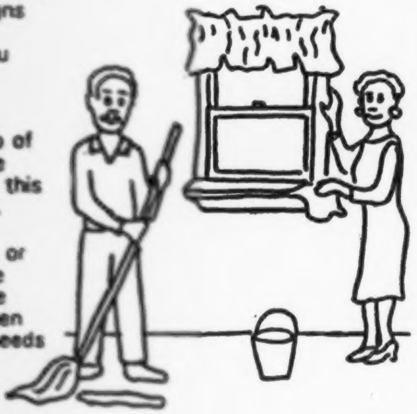


Young children will eat this dust when they put dirty fingers or toys in their mouths. When children eat lead dust, they can become lead poisoned.

You can keep young children from eating lead dust by wet cleaning your house.

HOW TO CLEAN LEAD DUST

- Ask your landlord which places need to be cleaned. Putting signs up can help you remember where you should clean.
- Get 2 gallons of water. Add 1/4 cup of Trisodium Phosphate (TSP). You can get this at a hardware store.
- Get a sponge, rag or mop and dip it in the bucket. Squeeze the extra water out. Then wipe the area that needs to be cleaned.
- Keep dipping the sponge, rag or mop in the bucket as you clean. You can stop cleaning when the dust is gone.

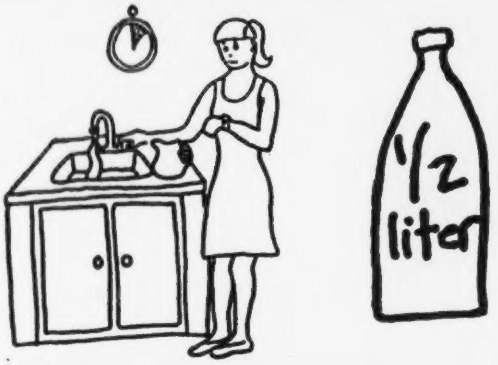


Always clean with water!!! Never dry wipe or dry sweep dust! You might make things worse!

You should clean whenever you see dust. Even if you don't see any dust, you should clean once a month just to be safe.

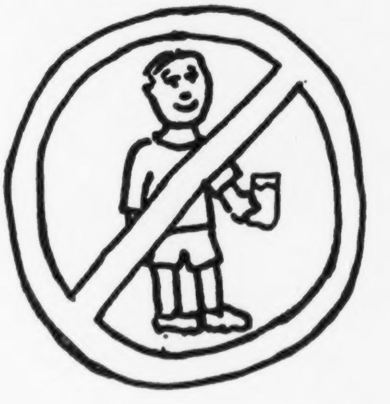
If you have any questions about cleaning lead dust, call the Department of Health at 277-1417.

Lead in Water



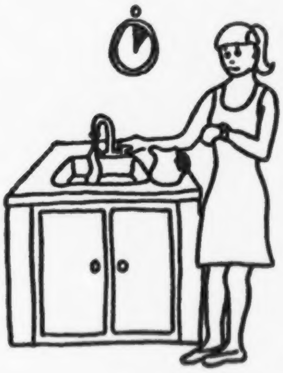
Flush water from this faucet for at least one minute before drinking AND do not drink more than 1/2 liter each day.

Lead in Water



Do NOT drink any water from this faucet!

Lead in Water



Flush water from this faucet for at least one minute before drinking.

CONTRACT SPECIFICATIONS
LEAD TESTING OF STRUCTURES/BUILDINGS

At the present time, there is neither federal nor state regulation of the lead testing industry. Firms offering lead testing services are listed on Fact Sheet #2. To assist you in the process of contracting for testing services, contract specifications for a complete lead paint survey have been drafted. These specifications can be incorporated into a written contract for services with the testing firm of your choice. You will need to specify the site of work (section 2.1) and the date for completion of the survey report (section 9.1).

GENERAL PROVISIONS FOR LEAD TESTING OF STRUCTURES/BUILDINGS

1. SCOPE OF WORK:

1.1 The work under this portion of the contract includes the following:

1.2 Test specified structures/buildings for the presence of lead based paint.

1.3 Provide a written report as specified in Section 5 summarizing findings.

2. LOCATION:

2.1 The site of the work is ______________________________.

2.2 The work shall include the testing and evaluation of all exterior/interior painted surfaces accessible to children.

2.2.1 Those surfaces should include but are not limited to:

a) all walls and ceilings within each room,

b) all parts of windows including sashes, frames, wells and sills,

c) all parts of stairs including risers, treads, balusters, baseboards, and newel posts,

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DIVISION OF LEAD POISONING PREVENTION

MARYLAND DEPARTMENT OF THE ENVIRONMENT

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d) all parts of porches including railings, balusters, columns, ceilings, and floors,

e) buildings appurtenant to play areas, fences and play equipment.

3. DEFINITIONS

3.1 XRF - portable direct reading x-ray fluorescence analyzer using gamma-rays from a radioactive source to induce characteristic x-rays for determining lead concentrations in paint.

3.2 Lead based paint (LBP) - any paint, plaster or other surface coating material containing more than 0.50% lead by weight calculated as lead metal in the dried solid, or more than
0.7 mg/cm by the x-ray fluorescence analyzer.

3.3 Paint scraping - a representative sample from a surface including all layers of the surface coating but not including

any of the substrate material. The results are reported in percent by weight.

3.4 LBP tester - a person who has had previous on-the-job training with other experienced inspectors/testers and is knowledgeable of current testing protocols and licensing requirements.

3.5 Accessibility - all interim or exterior painted surfaces in rooms or areas accessible to children.

4. TEMPORARY SERVICES:

4.1 Contractor will provide for temporary heating/cooling as required to assure a minimum/maximum testing temperature range of 40 to 100 fahrenheit, or as specified by testing equipment manufacturer.

4.2 Contractor will provide for temporary lighting as required.

5. REPORTS:

5.1 The contractor must keep detailed records describing all sampling locations, the XRF measurements obtained, the type and condition of substrate and paint, and anything unusual about the testing conditions.

5.2 The contractor must provide a written summary as follows:

5.2.1 Cover sheet noting facility name, address, inspectors name, type of XRF, and date of inspection.

5.2.2 A sketch of the structure/building shall be made and north indicated. Rooms should be identified by number. Each sample should be identified clearly and referenced to sampling sheets.

5.2.3 A narrative summary shall be made which summarizes test results and clearly outlines positive, negative, and inconclusive surfaces. If inconclusive, s statement explaining why it should be included.

5.2.4 Copies of all detailed records developed per Item 5.1 shall be included.

6. FIELD MEASUREMENTS/SAMPLING:

6.1 Operation of XRF, interpretation of readings, collection of paint samples, and laboratory analysis shall be done in accordance with HUD guidelines scattered site testing published April 18, 1990 (Federal Register Volume 55, No. 75, pp. 14556)

6.2 A determination of LBP lead content shall be made for all painted surfaces accessible to children including those noted in section 2.2.

7. PERMITS AND LAWS:

7.1 The XRF operator shall provide, prior to execution of work, evidence of licensure for operative equipment with a radioactive source issued by the Maryland Department of the Environment.

8. SAFETY PRACTICES:

8.1 The inspector must follow safety procedures as required by the Maryland Department of the Environment, Center for Radiological Health and appendix 4.3 of the HUD Guidelines published on April 18, 1990.

9. SCHEDULING

9.1 The contractor shall, within ________ days after the award of the contract, submit the report as outlined in section V.

TITLE OF MATERIAL: Comparison of Lead Paint Abatement Strategies

USE OF MATERIAL: This is used as a hand-out in the Georgia Tech lead based paint training course.

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COMPARISON OF LEAD PAINT ABATEMENT STRATEGIES

STRATEGY	APPLICATIONS	ADVANTAGES	DISADVANTAGES
Replacement	Windows, doors and otherwise easily removed components, especially when in deteriorated condition.	° Permanent solution ° Ease of meeting post-abatement clearance standards ° Worker satisfaction ° Integrates well with rehab and modernization ° Allows for upgrading and energy efficiency	° Requires skilled labor ° Can result in a large volume of solid waste which may be hazardous. ° Higher costs than other strategies when used in scattered site abatements ° Replacement components may not always be of the same or better quality as the original ° Can result in damage to adjacent substrates.
Encapsulation	Exterior walls, interior floors, walls, ceilings, some trim and pipes	° Generates only low dust levels if preparation of surface is minimal ° Minimizes waste disposal problems ° Cost and time effective for large surface areas	° Not a permanent solution ° Requires quality installation (skilled labor) ° Requires routine maintenance and record keeping
Paint Removal On-Site	Architecturally significant trim or structural members which can not be easily removed.	° Preserves original components ° Lower skilled labor required ° Useful when other strategies are impractical	° Generation of large amounts of dust ° Requires more stringent worker protection measures and extensive containment/clean-up efforts ° Lead residues may remain on components and be difficult to remove ° May be difficult to meet post-abatement clearance standards ° Very labor intensive
Paint Removal Off-Site	Architecturally significant easily removed trim and doors	° Preserves original components ° Usually results in a better finished project than on-site strategies	° Lead residues may remain on component and be difficult to remove ° Causes glass breakage, wood swelling and dissolves glues and puttys ° Size limitations

Handout 8-2

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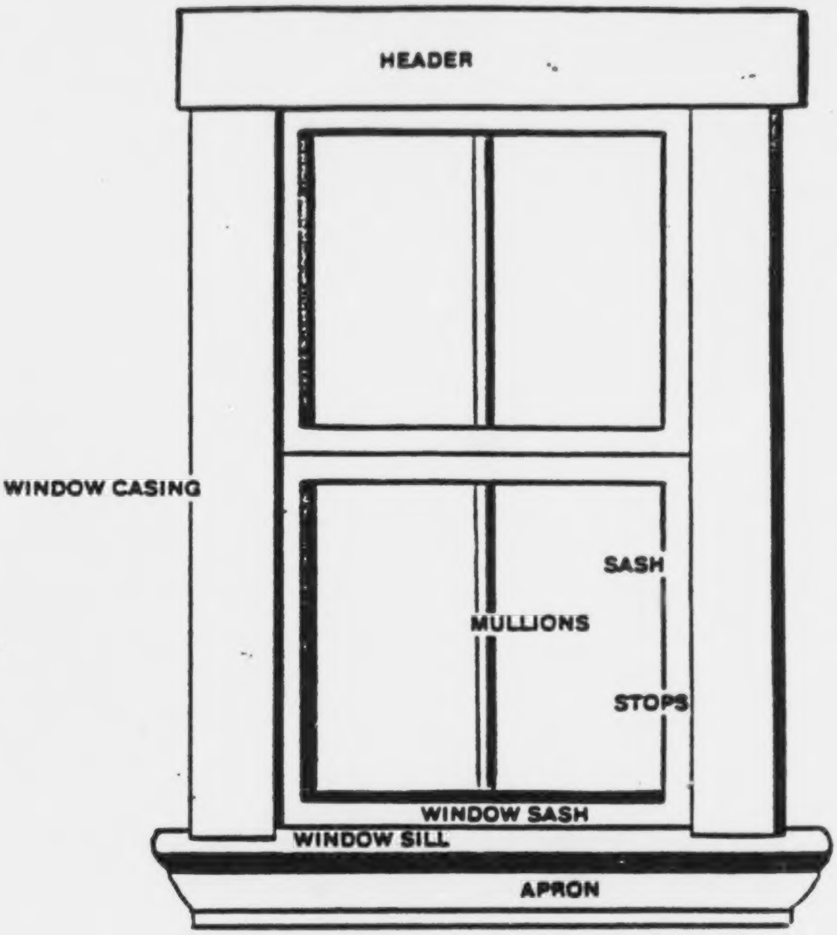
Table : Abatement Methods by Interior Component

INTERIOR COMPONENT	REPLACE	ENCAP-SULATE	REMOVE PAINT	
			on-site	off-site
WALLS				
CEILINGS				
FLOORS				
DOORS				
WINDOW UNITS				
WINDOW COMPONENTS				
sashes				
jambs				
sill				
well				
stop/parting				
TRIM				
baseboards				
door frames				
window frames				
plain molding				
decorative				
balustrades				
railings				
newel posts				
columns				
mantles				
door jambs				
RADIATORS				
CABINETS				
METAL PIPES				
STAIR TREADS				
STAIR RISERS				
GRILLES				

Table (continued) : Abatement Methods by Exterior Component

EXTERIOR COMPONENT	REPLACE	ENCAPSULATE	REMOVE PAINT on-site	REMOVE PAINT off-site
WALLS				
CEILINGS				
FLOORS				
DOORS				
WINDOW UNITS				
WINDOW COMPONENTS				
sashes				
jambs				
sill				
well				
stop/parting				
TRIM				
door frames				
window frames				
balustrades				
railings				
newel posts				
columns				
door jambs				
METAL PIPES				
STAIR TREADS				
STAIR RISERS				
GRILLES				
SOFFITS				

DIAGRAM 3


HEADER
WINDOW CASING
SASH
MULLIONS
STOPS
WINDOW SASH
WINDOW SILL
APRON

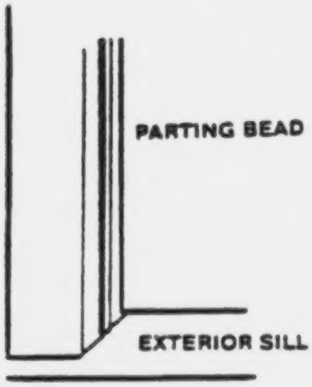

PARTING BEAD
EXTERIOR SILL

DIAGRAM 4

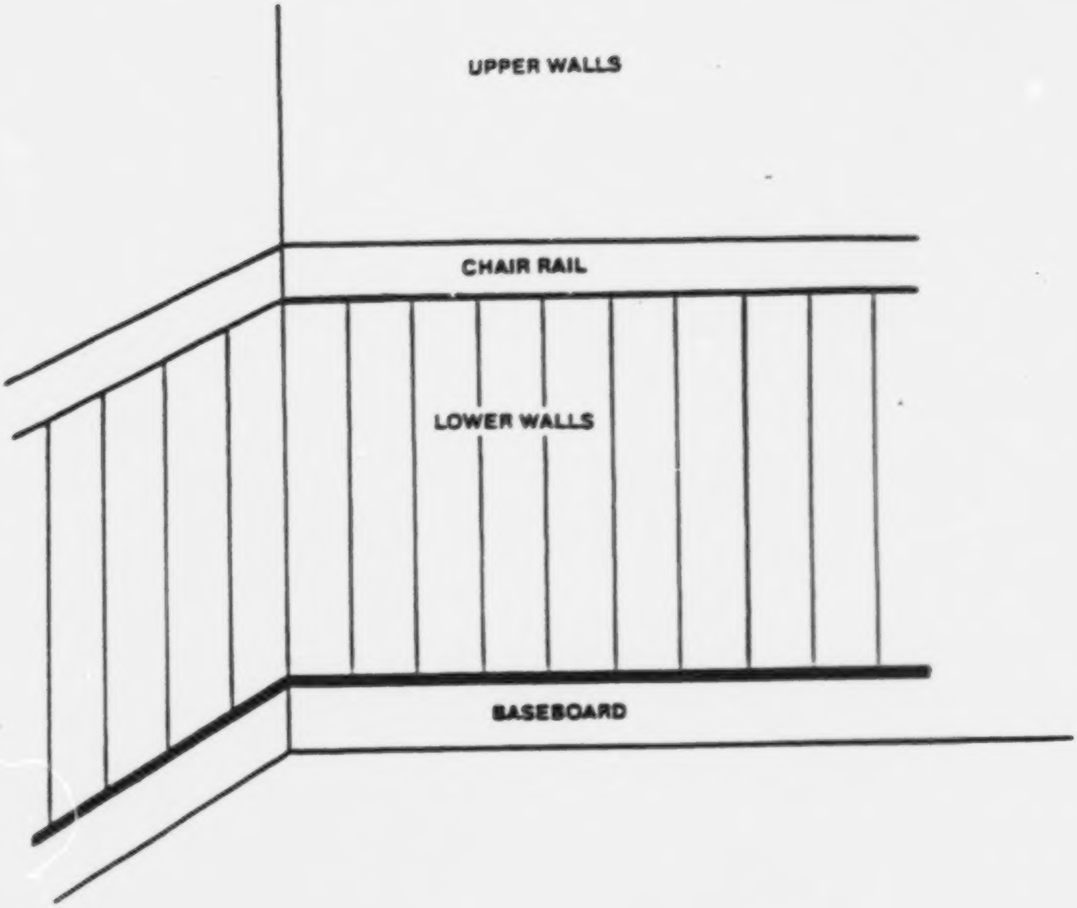
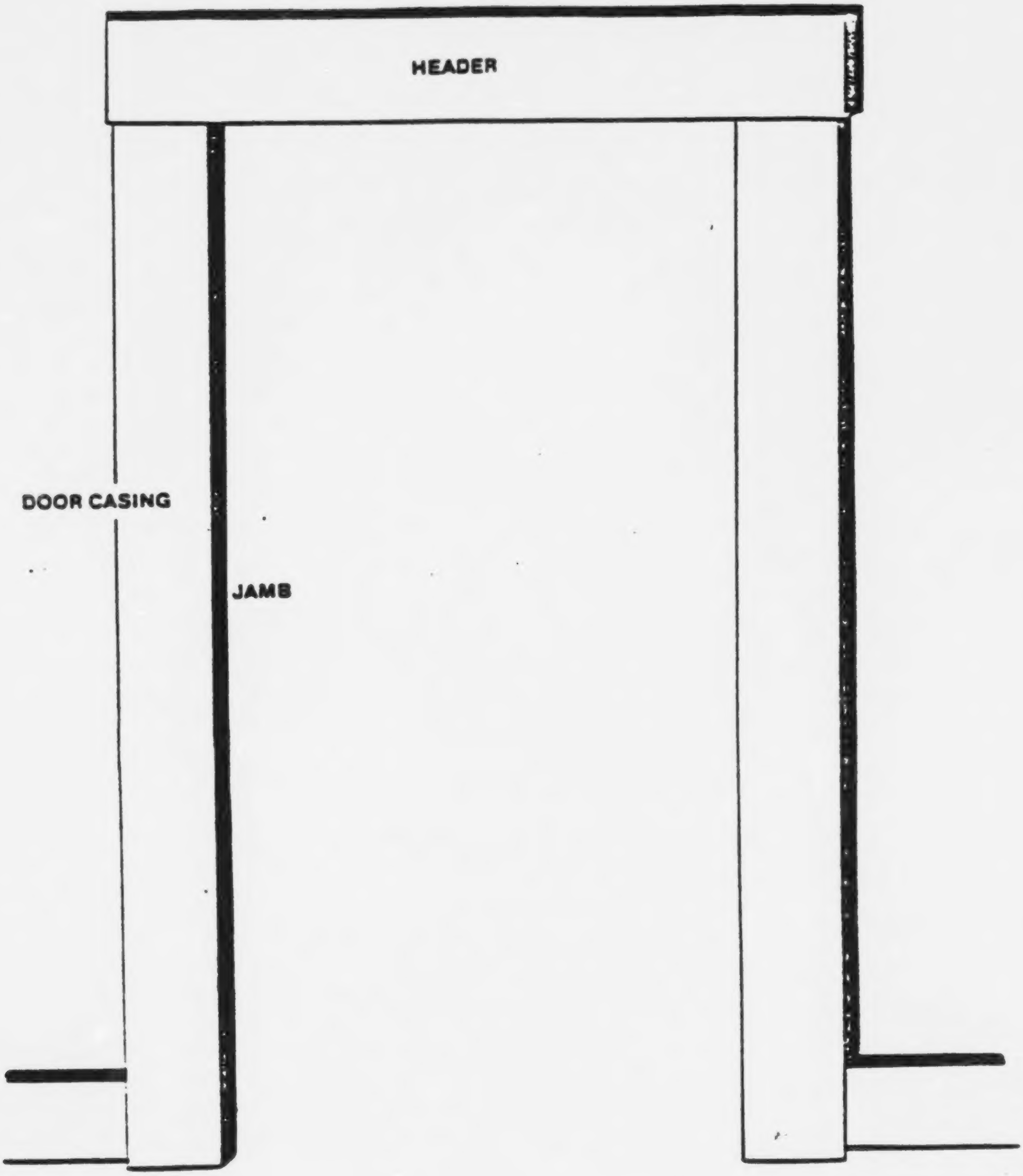

UPPER WALLS
CHAIR RAIL
LOWER WALLS
BASEBOARD

DIAGRAM 5


HEADER
DOOR CASING
JAMB

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Interim Control: How To Do It

1. Owners of properties in reasonably good condition may decide to proceed directly to interim control without a risk assessment. This involves stabilizing any deteriorated paint (see Section II), on the assumption that all deteriorated paint contains lead-based paint, thoroughly cleaning all surfaces (see Section I), and covering all bare soil (see Section V). These measures should be followed by a risk assessment to determine if the housing unit meets clearance standards and if any hazards were left uncorrected. Any such interim control activities should be carried out in accordance with the procedures described in these *Guidelines*.

2. Alternatively, an owner may first have an independent risk assessment performed by a certified professional to determine if lead-based paint hazards exist.

3. Together with a certified risk assessor, planner, or other designer, develop a site-specific lead hazard control plan based on the hazards identified, the feasibility of the control measures, occupant protection, and financing. For interim controls and some abatement techniques, the plan should include how and when ongoing monitoring by the owner and reevaluation by a certified professional will be performed. (See Chapter 6 for standard reevaluation schedules.)

4. For building components, determine which hazards will be addressed with interim controls (dust removal, paint stabilization, and/or control of friction/abrasion points). For lead-contaminated soil, decide which interim control measure is appropriate for the climate and the planned use of the area.

5. Develop specifications (if appropriate). The amount of detail provided should be commensurate with the size of the job. The specifications should state how any abatement activities and other construction work (e.g., weatherization) will coincide with the interim control work. It may be preferable to combine interim controls with abatement in many cases.

6. Although interim controls are not expected to generate hazardous waste, the planner or risk assessor should make this assessment for each project; notify local authorities if the local jurisdiction requires it.

7. Select a qualified, trained contractor to complete the hazard control work. For some small jobs, onsite maintenance workers may be able to perform the work. In either case Occupational Safety and Health Administration (OSHA) regulations require all interim control workers to be trained.

Step-by-Step Summary (continued)

8. Select the appropriate interior and/or exterior Worksite Preparation Level (from Chapter 8) to protect residents.

9. Notify residents of the dwelling and adjacent dwellings of the work and when it will begin. Distribute educational materials furnished by the Environmental Protection Agency (EPA) and/or the State or local government to residents about lead poisoning and lead-safe practices.

10. Correct any existing conditions that could undermine the success of the interim controls (e.g., structural deficiencies, moisture problems, uncleanable surfaces).

11. Complete interim controls. See the Step-by-Step Summaries in each section of this chapter for information about dust removal, paint film stabilization, friction and impact surface treatments, and interim soil controls.

12. Store all waste in a secure area and make sure that it is properly labeled (see Chapter 10). Dispose of all waste properly.

13. Conduct daily and final cleanups (see Chapter 14).

14. Have an independent, certified inspector technician or risk assessor conduct a clearance examination (see Chapter 15). If clearance is not achieved, complete interim controls and/or reclean. Following a successful clearance examination, the property owner should receive documentation to that effect, including a schedule for required reevaluation. Local authorities may also require a Statement of Lead-Based Paint Compliance.

15. The owner should conduct ongoing maintenance and monitoring of interim controls to ensure that they remain in place. Periodic reevaluations by a certified risk assessor should be completed according to the reevaluation schedule in the hazard control plan of the property.

16. Maintain records of all lead hazard control, reevaluation, and monitoring activities and turn them over to any new owner upon sale of the property.

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Abatement: How To Do It

1. Have a risk assessment or paint inspection performed by a certified risk assessor or inspector technician who is independent of the abatement contractor.

2. Develop a site-specific lead hazard control plan based on the hazards identified and financing available. Select the appropriate interior and/or exterior Worksite Preparation Level (from Chapter 8).

3. Have the contractor obtain any necessary building or waste permits; notify local authorities if the local jurisdiction requires it.

4. Together with the contractor (or designer or risk assessor), select specific building component replacement items, enclosure materials, paint removal equipment and/or chemicals, tools, and cleaning supplies. Consider waste management implications of the selected treatment.

5. Develop specifications (usually for large projects only) for scope of work.

6. Schedule other construction work so that leaded surfaces are not inadvertently disturbed and unprotected workers are not placed at risk. Include time for clearance examinations and laboratory dust sample analysis in the scheduling process (see Chapters 3 and 15).

7. Select a certified abatement contractor using the lowest *qualified* bidder.

8. Conduct a preconstruction conference to ensure the contractor fully understands the work involved (for large projects only).

9. Notify residents of the dwelling and adjacent dwellings of the work and when it will begin. Implement relocation (if appropriate).

10. Correct any existing conditions that could impede the abatement work (e.g., trash removal, structural deficiencies).

11. Post warning signs and restrict entry to authorized personnel. Implement the worksite preparation procedures.

12. For large projects only, consider conducting a pilot project to determine if the selected abatement method will actually work (pilot projects are sometimes completed before step 4).

Step-by-Step Summary (continued)

13. Execute abatement work. See the other sections of this chapter for Step-by-Step Summaries for building component replacement, enclosure, paint removal, and soil abatement methods. Observe local or State regulations if applicable.

14. Store all waste in a secure area and make sure it is properly labeled with an accumulation start date (see Chapter 10).

15. Conduct daily and final cleanup (see Chapter 14). Execute waste disposal procedures.

16. Have an independent, certified inspector technician or risk assessor conduct a clearance examination after waiting at least 1 hour after cleanup has been completed to let dust settle.

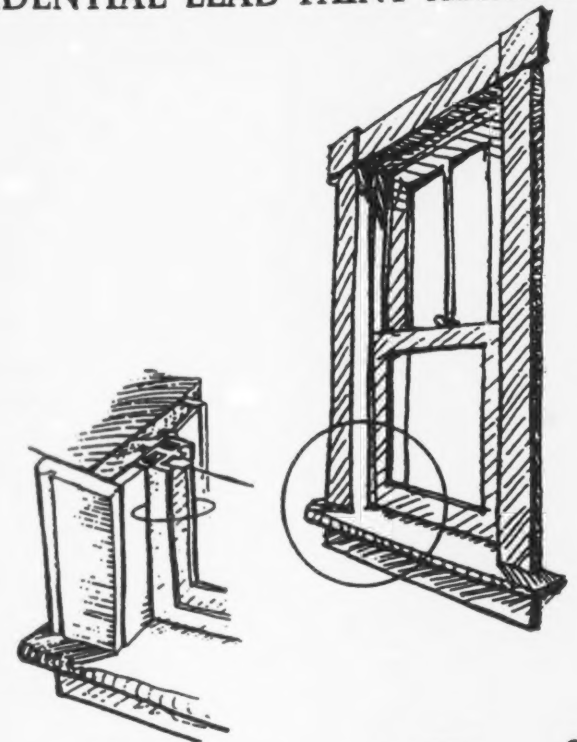
17. If clearance is not achieved, repeat cleaning and/or complete abatement work. Repeat clearance examination and if clearance is achieved, obtain any required formal release or certificate of completion required by HUD or local authorities.

18. Pay contractor and clearance examiner.

19. Conduct periodic monitoring and reevaluation of enclosure systems (if applicable) or lead-based paint that was not abated as indicated in Chapter 6. Maintain records of all abatement, monitoring, reevaluation, and maintenance activities, and turn them over to any new owner upon sale of the property. If enclosure systems are used, follow the reevaluation schedule in this chapter for enclosure systems and paint removal abatement jobs.

EPA Model Worker Course

RESIDENTIAL LEAD PAINT ABATEMENT



Tool Box Guide

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between the Alice Hamilton Occupational Health Training Center and
U.S. Environmental Protection Agency Office of Pollution Prevention and Toxics

May 1994 edition

EPA Model Worker Course

RESIDENTIAL LEAD PAINT ABATEMENT

Tool Box Guide

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Tool Box Guide

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Introduction

The focus of this guide is residential interim controls and abatement work.

This Tool Box Guide is a quick reference for worker protection and work practices. It gives you the information you need on the job. It is designed to fit in your tool box.

The Tool Box Guide does not contain all the information you need to know to work safely with lead. But, on the job site, it may answer many questions you may have.

Refer to your Lead Abatement Worker Manual if you need more information.

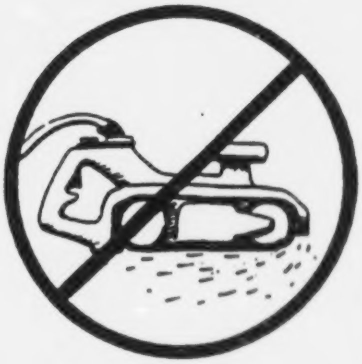
Critical Facts

- **Lead causes severe poisoning leading to brain damage, and sickness.**
- **Lead poisoning is a tragedy that can be prevented.**
- **Children and pregnant women are most likely to become lead poisoned. All children under 7 should be tested for lead poisoning.**
- **Lead paint dust is a primary cause of lead poisoning. Deteriorated or disturbed paint surfaces produce lead dust.**
- **Workers who disturb painted surfaces may become lead poisoned if they are not properly protected and they may poison children if they do not clean up properly.**
- **Assume all homes built before 1978 contain lead unless tested and found to be lead free.**

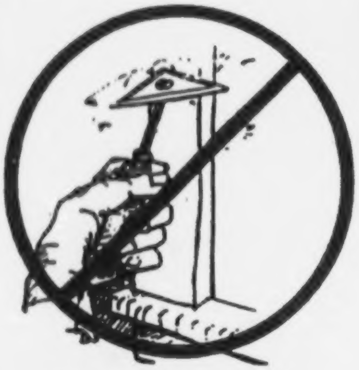
1 Sources of Lead Paint Dust

1. BREAKING SURFACES

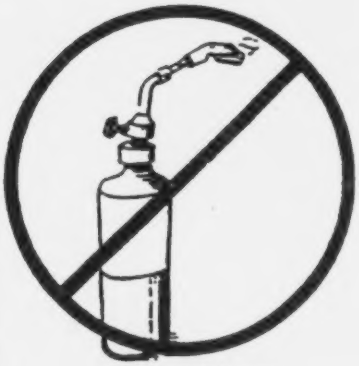
- Lead paint is usually below several layers of non- lead paint
- Left unexposed/undamaged, it produces little if any dust
- Some practices produce so much lead dust that they should always be avoided:



Do not dry sand. Power sanding is most dangerous.



Do not dry scrape.



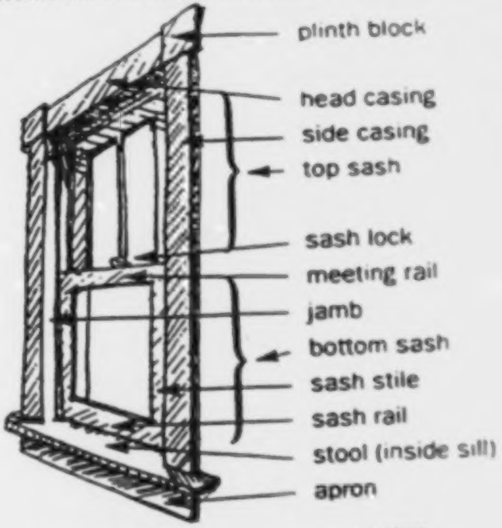
Do not burn.

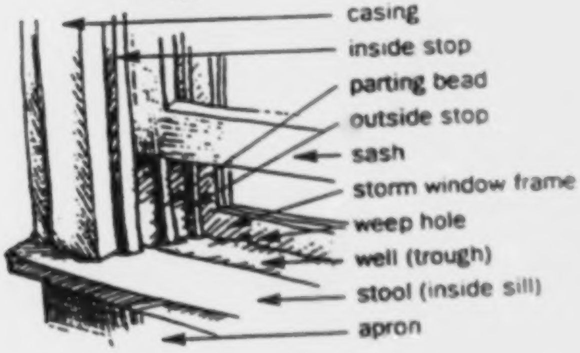
- Removal of cabinets, window trim, etc. produces dust when paint joints are broken.
- Removal also may release large amounts of dust and chips that have accumulated behind objects or molding being removed.
- Demolition creates large quantities of dust
- Stripping creates toxic paste which releases toxic dust when dried
- Heat guns are permitted but not encouraged

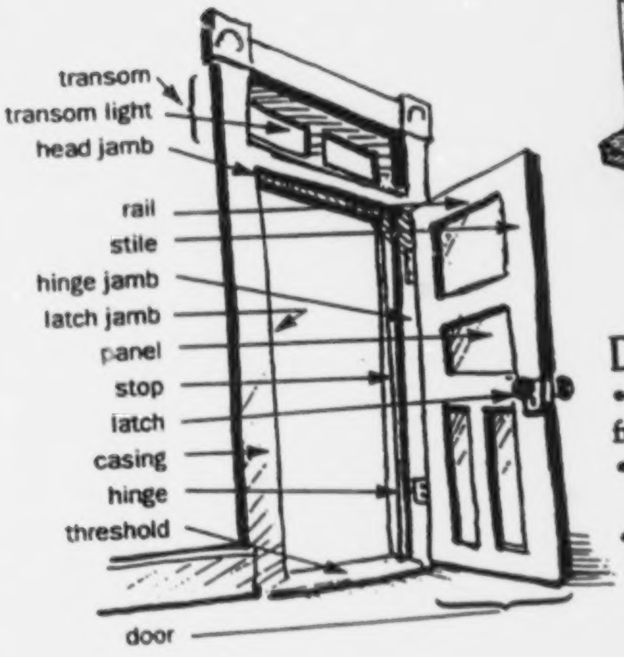
2. MAJOR FRICTION AND IMPACT POINTS

Windows

- Paint deteriorated from moisture/weather
- Sash rubbing jamb, stop, and parting bead
- Sash banging against well and parting bead
- Impact against edge of stool


plinth block
head casing
side casing
top sash
sash lock
meeting rail
jamb
bottom sash
sash stile
sash rail
stool (inside sill)
apron


casing
inside stop
parting bead
outside stop
sash
storm window frame
weep hole
well (trough)
stool (inside sill)
apron


transom
transom light
head jamb
rail
stile
hinge jamb
latch jamb
panel
stop
latch
casing
hinge
threshold
door

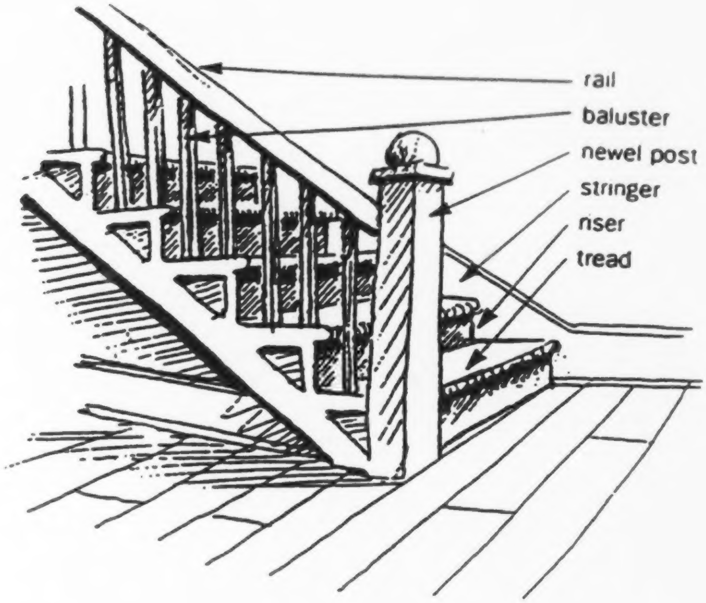
Door

- Paint weakened by impact and friction at jamb, stop, and door edge
- Exterior door paint weakened by moisture and weather
- Paint weakened by crushing on hinge side

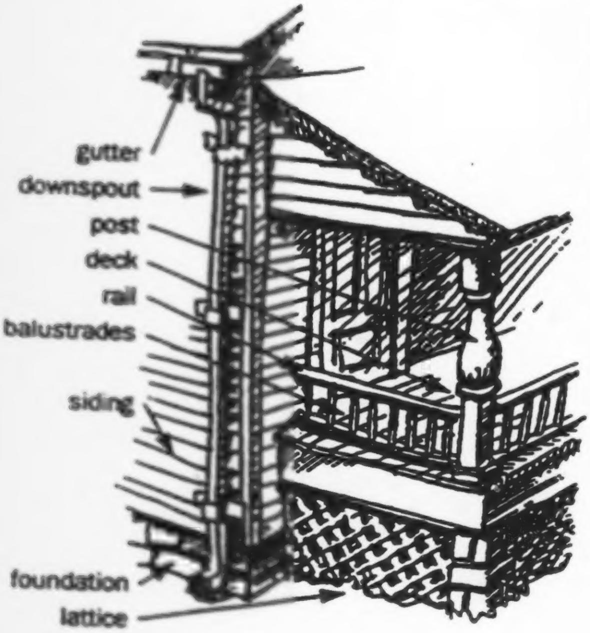
Stair / Floor

- Floor boards
- Stair treads

Paint exposed through walking, moving objects, and impact against risers, treads and newel past


rail
baluster
newel post
stringer
riser
tread

3.MOISTURE


gutter
downspout
post
deck
rail
balustrades
siding
foundation
lattice

Moisture is a major cause of paint failure. Moisture usually attacks the painted surface from behind the paint.

Exterior Surfaces

- Sun, heat, cold, rain cause paint failure, flaking and peeling
- Some exterior paint is designed to chalk
- Clogged or separated gutters and downspouts damage paint
- Standing water on porch floors, windows wells and sills damage paint
- Moisture from inside house migrating to behind exterior paint damages paint

Interior Surfaces

- Steam/moisture from cooking and washing
- Roof and roof flashing leaks
- Plumbing leaks
- Rain water entering walls
- Condensation in ceilings and walls
- Water splashed in kitchen and bath
- Dampness from crawl spaces

4. PAINT AND SUBSTRATE FAILURE

- Paint applied to glossy or greasy surface
- Plaster pulling away from lath
- Wallpaper separation
- Incompatible paint on paint
- Rotting or termite damaged wood

5. "UNCLEANABLE," UNSEALED SURFACES

- Lead dust gathers in cracks. It builds up behind cabinets, between floor boards, behind molding, under baseboards, etc.
- If the dust is not removed, movement, impact, outside wind pressure etc. will spread this dust even after surface cleaning and dust wipe clearance.
- These areas need to be cleaned crack by crack, filled or sealed, and made smooth and cleanable.

Abatement Methods

ENCAPSULATE

Encapsulants are brushed, rolled, or troweled on products some of which are combined with a mesh system. Some may only work on walls; others on molding. Incorrect application, or use on inappropriate or damaged surfaces may result in a failure, so test patches are suggested. Crews may benefit from manufacturer's training. We do not yet know how durable some of these products are.

ENCLOSE

Enclosure materials are any rigid material such as plywood, dry wall, coil stock (sheet metal), rubber stair treads, etc. They must be mechanically fastened; adhesives are also recommended. It is crucial that perimeter edges be back caulked with a 25+ year caulk or adhesive caulk. This is particularly important for bottom edges.

REPLACE

This is the safest permanent intervention. It is also usually the most expensive. It is usually cost effective in cases such as windows where replacement has additional benefits such as weatherization, decreased maintenance costs and property value increase. It is also the most effective method when the substrate (plaster, wood, etc.) is badly damaged. Replacing components such as baseboards, casings and walls is expensive, does not add value to the property and may not be necessary.

PAINT REMOVAL

Strip

Where building components have historic value, such as arched shaped sashes or paneled doors, stripping is an option; but, commercial off-site stripping is always preferable to on-site stripping. Stripping is effective on door and window jambs where the original door or sash is to be reinstalled. Doors and sash can be off site stripped. It may also be effective on small select areas such as thresholds or window stools. Chemical strippers must be used with extreme caution as they may cause severe burns, are difficult to neutralize and clean up, and produce a paste that may be toxic. Methylene chloride is banned by HUD and many states. Caustic strippers should be in paste, not solution. Wear chemically resistant suit, gloves, goggles and head cover.

Heat Gun Stripping

May be used if temperature is kept below 1,000 degrees. This method may produce toxic fumes, so a respirator with organic fume cartridge and/or with a powered air purifying respirator (PAPR) may be necessary. This method is discouraged because of the toxicity of the removed paint. (Never use open flame) Heat guns may cause a fire hazard. Always have an ABC fire extiguisher on site.

Local Exhaust Hand Tools

Vacuum blasters, HEPA sanders and needle guns must be used by trained workers with extreme caution. Make sure the equipment is well maintained. Use only as directed.

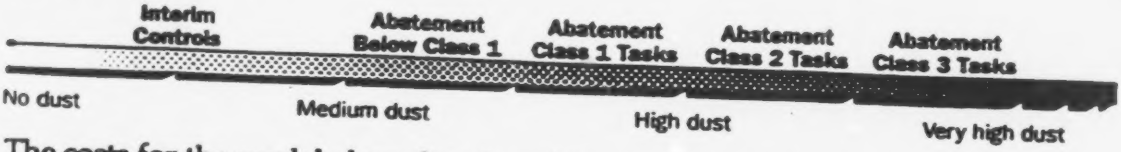
3

Levels of Intervention

NOTE: This manual focuses on work in residential single family or individual apartments.

When safe work practices are used, dust levels can be kept low. If dust levels rise above the Permissible Exposure Level or you do any OSHA lead related task more stringent personal protection and hygiene is required. (See chart on p. 11 and p. 14)

So the range is:



The costs for the work below class 1 could vary widely. Cleaning a 1,000 sq. ft. house could cost $300 to $600. Minor interim control measures could add $500 to $1000. Each window replaced could add $250 to $400 for inexpensive vinyl windows. And as more woodwork is replaced or floors and walls are enclosed the price can increase by several thousands.

REMEMBER:

If a dwelling is well maintained, lead intervention cost are low. Fixing roofs damaged walls, flaking peeling paint, poorly maintained windows and doors are the source for most of the cost, not lead paint work.

We have divided the work into three categories. These categories overlap.

INTERIM CONTROLS

CLEAN AND PAINT

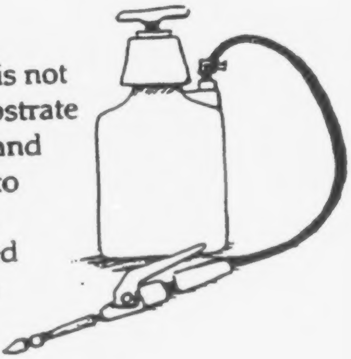
- Cap window well with sheet metal after caulking rear perimeter.
- Wet scrape small spots of loose and peeling paint and repaint interior and exterior trim. (see next page)
- HEPA vac and wet wash with appropriate cleaner, entire house, with emphasis on windows.
- Stool (inside sill) wet scrape top, wet plane nose, repaint.
- Send rugs to cleaners or HEPA vac with carpet beater. Wall to wall carpets are very difficult to clean.

ADDRESSING FRICTION AND IMPACT SURFACES

All of the above, plus:

- In- place window treatment which eliminates abrasion of lead paint at sash edges, jamb and moldings. This may be done by wet scraping or planing sash contact edges and reinstalling sash in window channel. (See page 22)
- Reworking of interior and exterior doors to eliminate all abrasion points. This might include wet planing edges, rehanging, replacing stop and weather-stripping.
- Paint or refinish rough floors to make cleanable.
- If treads are lead painted enclosing in rubber treads with metal nosing works well. If riser is lead painted, enclose with thin plywood. (See page 30)
- Clean rugs and draperies by sending out to commercial cleaner. Wall-to-wall carpeting is extremely difficult to clean. Use a HEPA vac with a power beater.
- Wet scrape or encapsulate exterior trim if lead paint is present.
- Replace all sash with replacement windows or new sash. This does not include ripping out jambs where lead is present. (This is a major cost increase, but it has substantial energy conservation, maintenance and building appreciation value.)
- Encapsulate walls and trim if severely flaking or peeling. If intact or minor flaking and peeling, wet scrape and paint.
- As this work may generate dust, it is recommended a protective suit be worn so dust is not carried home.

WET SCRAPE AND PAINT



Mist the surface and scrape all loose surface paint, particularly flaking or peeling paint. This process is not intended to remove all paint. Paint adhesion to substrate must be sound. Roughened surface may be filled and wet sanded before painting. (This sanding is only to smooth top, non-leaded layers.) Surface to be well cleaned and prepped before painting and may need to be inspected before repainting. Use primer plus one or two coats of high grade paint appropriate to surface. Paint must be maintained. This is not a permanent solution.

ABATEMENT

Abatement methods can include encapsulation, enclosure, paint removal and replacement. As part of an interim control strategy, abatement methods would be used for surfaces where the substrate (the material the paint is on) is so damaged an interim control measure would not work.

Abatement is an ideal strategy as part of a renovation.

Where a living unit can be vacated, abatement offers a "permanent" solution (it may not be fully permanent as an enclosed wall could be demolished in the future thereby releasing accumulated lead dust).

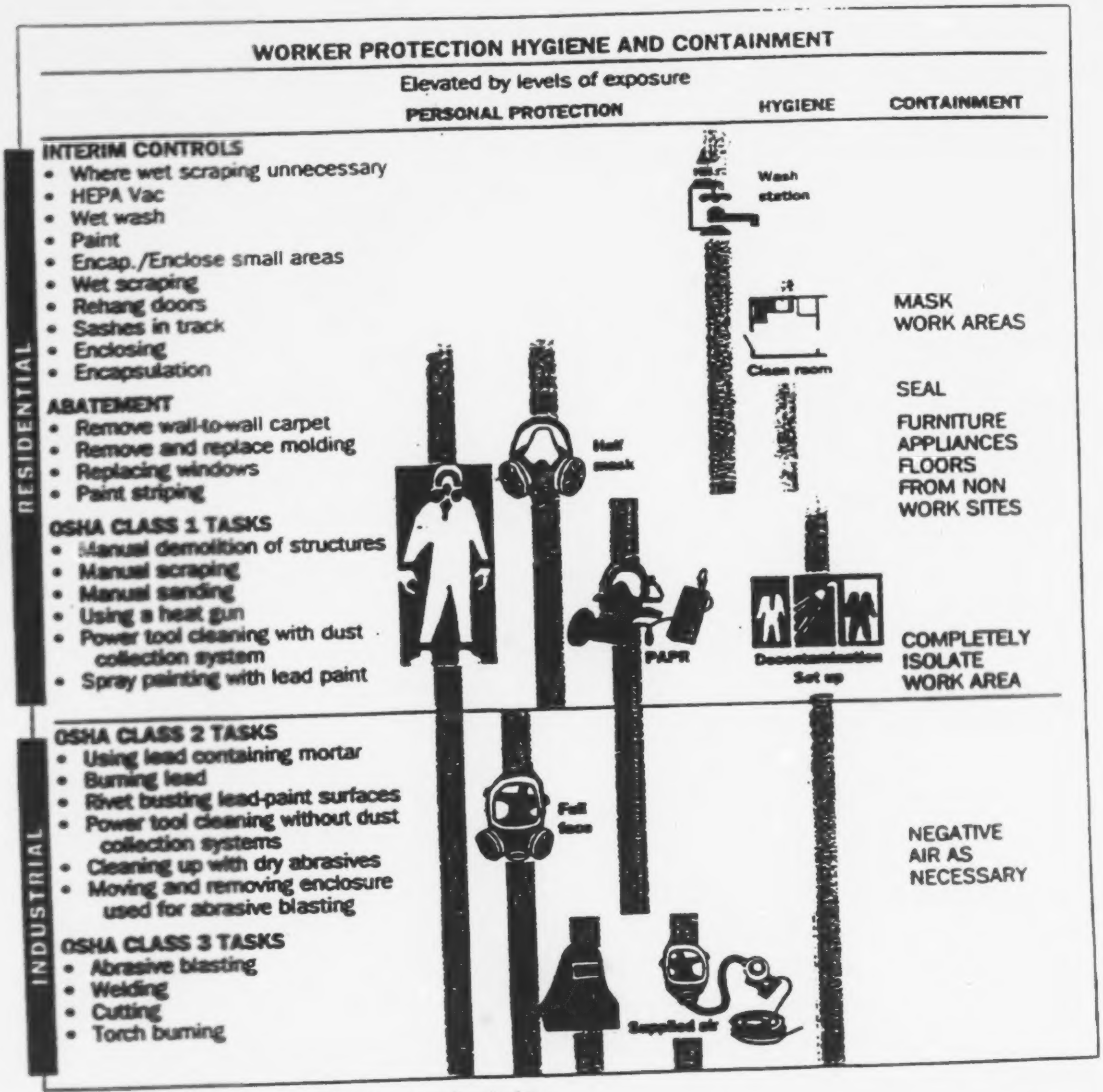
This level would include:

- If floors are lead painted, they must be enclosed using rigid underlayment, then a floor covering. Carpeting is discouraged as it is not cleanable or permanent. (There are HEPA floor sanders.)
- Walls and ceilings may be enclosed with dry wall or paneling.
- Replacing windows including jambs, casing, stool, etc.
- Off site stripping. On site stripping is potentially hazardous but may be appropriated for historic preservation.
- The replacing of woodwork, wall, and ceilings in excellent condition may be unnecessary, even if they are lead painted.

Interim controls are currently being evaluated, but it appears they are cost effective, to varying degrees, in lowering dust levels. Until more data is gained, periodic dust tests are recommended for levels one and two.

The clean and paint process is designed for occupied houses. With stringent precautions, interim controls may also be done in occupied dwellings with local regulatory permission. Occupants would be out of house during work. Abatement must be done in vacant dwellings or areas completely sealed off from the living space.

Worker Protection] 4



WORKER PROTECTION HYGIENE AND CONTAINMENT

Elevated by levels of exposure

PERSONAL PROTECTION
HYGIENE
CONTAINMENT
RESIDENTIAL
INDUSTRIAL
Wash station
Clean room
Half mask
PAPR
Decontamination Set up
Full face
Supplied air
MASK WORK AREAS
SEAL FURNITURE APPLIANCES FLOORS FROM NON WORK SITES
COMPLETELY ISOLATE WORK AREA
NEGATIVE AIR AS NECESSARY

INTERIM CONTROLS
- Where wet scraping unnecessary
- HEPA Vac
- Wet wash
- Paint
- Encap./Enclose small areas
- Wet scraping
- Rehang doors
- Sashes in track
- Enclosing
- Encapsulation

ABATEMENT
- Remove wall-to-wall carpet
- Remove and replace molding
- Replacing windows
- Paint striping

OSHA CLASS 1 TASKS
- Manual demolition of structures
- Manual scraping
- Manual sanding
- Using a heat gun
- Power tool cleaning with dust collection system
- Spray painting with lead paint

OSHA CLASS 2 TASKS
- Using lead containing mortar
- Burning lead
- Rivet busting lead-paint surfaces
- Power tool cleaning without dust collection systems
- Cleaning up with dry abrasives
- Moving and removing enclosure used for abrasive blasting

OSHA CLASS 3 TASKS
- Abrasive blasting
- Welding
- Cutting
- Torch burning

• The best protection is keeping the dust levels low

BEST COPY AVAILABLE

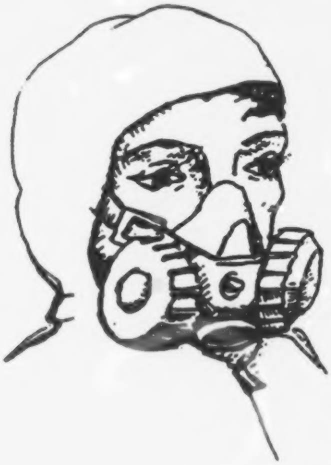
The first line of defense against worker injury or poisoning is avoiding dangers rather than protecting against them. For example: it is better to avoid creating toxic dust than count on a respirator for protection. Lead poisoning is caused by ingestion and inhalation. It can cause health damage ranging from loss of memory and nerve damage to death. Unless proven otherwise, demolition of older structures should be treated as a lead hazard.

SAFETY REQUIREMENTS (For work less than class 1 tasks)

1 Workers can keep dust levels low by:

- Wet cleaning (mist with water before sweeping)
- Clean site at appropriate stages of work to minimize dust
- Isolate areas where demolition or other dust producing work is occurring from other work areas

2 Wear appropriate respirator in presence of dust (Interim controls and abatement)

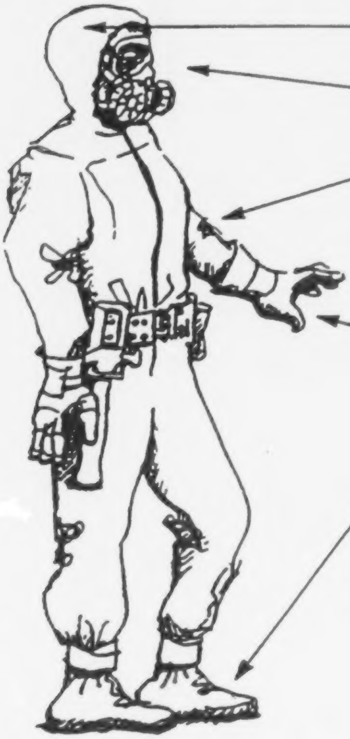


- Wear a fit tested respirator with A HEPA filter for dust. An organic vapor filter for fumes, vapor gases; or a combination filter for both types of hazards.
- Wear a PAPR (powered air purifying respirator) when dust levels are high (class 1, 2 and 3 tasks) such as on major demolition sites.
- Each employee must have his/her own respirator stored in a clean place and routinely cleaned and inspected.
- Anytime you work with lead you can ask for a respirator. Your employer must supply you with the correct respirator. The Lead in Construction Standard states the type of respirator you need depending on the type of work you are doing.

Employers must have a respirator program as required by OSHA.

It is possible to take off respirator if a work site has been cleaned up to make it dust safe. This may be done as long as no paint surfaces are broken or dusty work (like picking up carpeting) is done. Be sure an appropriate regulatory agency approves this practice.

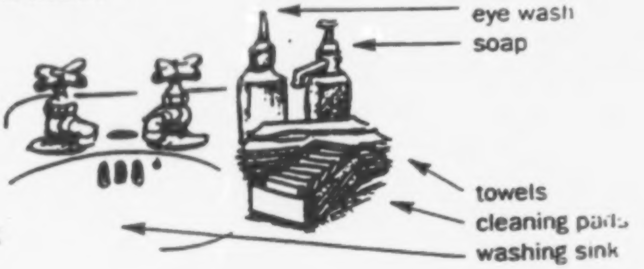
3 Wear protective clothing in presence of dust:



- Wear disposable or cleanable hat or hood when doing demolition or working with chemicals.
- Wear goggles when using power tools, scrapers, corrosive materials or doing any demolition.
- Wear disposable suit. Remove upon leaving work area.
- Wear chemically resistant disposable suit when working with corrosive chemicals as found in chemical strippers.
- Wear protective gloves during demolition or when using chemicals including TSP. For corrosives, use rubber or neoprene gloves.
- Wear removable booties - they get removed when stepping off protective plastic or leaving work area.
- Read your Material Safety Data Sheet (MSDS) for types of gloves and suits
- Before entering the work area put on you assigned respirator and protective gear.
- Make sure disposable suit and booties fit properly.

4 Personal Hygiene Practices

MINIMAL LEVEL for any work in an old house —



Set up wash station

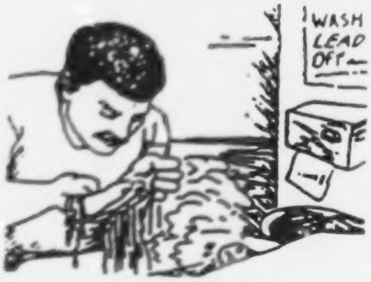
- Water, soap and disposable towels
- An eye wash station
- Cleaning station for respirators
- A clean wash area and clothes changing area isolated from work area

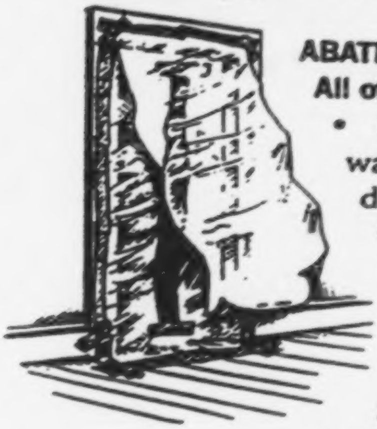
Before entering work area

- Put on your assigned respirator
- Put on protective gear. Make sure it fits.

When leaving the work area and at the end of day:

- HEPA-vacuum lead dust from protective clothing.
- Take off your booties and leave them in the work room.
- Take off rest of your protective gear and respirator.
- Wash your hands and face.
- Clean your respirator and store in a clean spot.
- At end of day, shower and wash your hair.





ABATEMENT LEVEL BELOW 1, 2 OR 3 CLASS TASKS

All of the above plus:

- Create a clean room by an exit door, with running water. This room must be protected from work area by double flap door covering and must be kept dust safe.
- When feasible change from work clothes to street clothes

WORK WHERE DUST LEVELS MAY REQUIRE IN CLASS 1, 2 OR 3 TASKS

- Set up a decontamination system.

You go into and out of the work room through a special area. It is called the **"decontamination unit"** or **"decon."** This is where you **decontaminate** or get clean. The decon has three parts. They have to be in this order, starting from the work room:

1. DIRTY AREA

The dirty area must have a container in which to put your dirty protective clothing in. This container has to have a lid that closes. The container should be labeled.

2. WASH AREA

The wash area must have an eye wash station, warm running water, clean towels, soap, and (when feasible) a shower. Employers must also provide access to toilets.

3. CLEAN AREA

The clean area must have a clean place to store your clothes and respirator. Your street clothes should never be in contact with your dirty work clothes.

5 NO FOOD, CIGARETTES OR DRINK IN WORK AREA!

Before workers stop to smoke, eat or drink, they must leave the work site and clean up.

CAUTION -

Safe and easy access to drinking water is essential.

QUIT SMOKING!

Smoking may increase occupational diseases ten fold

6 A comfortable work site must be maintained by your employer

- Create an eating and break space that is dust safe, clean and dry.
- Make bathroom facilities available. This can be in an isolated on-site bathroom, a portable toilet, or an offsite facility. Decontamination is essential before leaving the work site.
- The work site should be well ventilated, well lit, and at a comfortable temperature (not by central forced air unit as it may draw in lead dust.).

Wash Hands and Face

7 Do not take lead dust home

- Wear protective clothing.
- Clean up and use showers when available.
- Do not bring home contaminated shoes and clothing.
- If shoes and clothing are contaminated, change before going home.

This is a dust reading from a car and work shoes. Note the a baby's car seat dust reading. The baby's father, who worked in a brass factory, used the car to drive himself and co-workers home. The lead laden dust settled on the stickiest place in the car, the child's seat, and poisoned the child.

SAMPLE #	AREA SAMPLED	SAMPLE RESULTS	SAFE LEVELS
WS#1	Baby car seat	2,230 ug/ft^2	< 200 ug/ft^2
WS#2	Passenger car seat	67 ug/ft^2	< 200 ug/ft^2
WS#3	Driver car seat	228 ug/ft^2	< 200 ug/ft^2
WS#4	Car driver floorboard	92 ug/ft^2	< 200 ug/ft^2
WS#5	Right work shoe	2,080 ug/ft^2	< 200 ug/ft^2
WS#6	Left work shoe	3,980 ug/ft^2	< 200 ug/ft^2

5

Occupant / Owner Readiness

The occupant and owner should understand:

- The dangers of lead dust
- The test results
- How to clean, then pack their possessions before work begins
- Where the work will be done, and where lead paint will not be removed
- The benefit of removing and not reinstalling wall- to- wall carpets. (Carpet removal must be done with respiratory protection and followed by thorough clean up)
- That re-entry before final clean up must happen only with the contractor' s and/or inspectors permission and never by children or a pregnant woman
- How they should conduct post-intervention cleaning, maintenance and dust testing
- How to change air filters in forced air systems for home maintenance.
- How diet can help
- The importance of monitoring children's blood levels
- How to visually inspect known or suspected lead paint surfaces after the interim controls have been completed.
- The importance of preventing moisture damage

Work Site Setup

1. PRE- CONDITIONS

These should be available before work begins:

- Generator or electric source for light and power tools
- Access to toilet
- Running water or wash station (if there is a chance of plumbing freezing, use water at entrance to building, heat tape entrance pipe to spigot, drain down remaining system)
- Heat source for working (may not be central forced air)
- Storage area for construction materials and debris
- Clean area for clean up and eating

2. OCCUPANCY

There are a number of options for relocating occupants. Check restrictions. Some examples:

- All occupants leave house for day. This would allow for one or two crew shifts. Cleaning and dust sampling, but not test results, would be completed before re-occupancy. All small objects are wiped down and boxed.
- Isolate work area from occupied areas. This isolation must be complete. Neither workers or occupants are allowed to move directly from work areas to occupied spaces. Separation must be completely sealed from the possibility of dust transfer. Workers must enter and leave work site through exterior door or window. Where toxic or irritating fumes exist, create a negative-air environment.
- For a two to several day job have occupants tack-cloth-wipe small objects and put into boxes. Clothes on hangers can be put flat on a bed. Place furniture with boxes into center of room; cover with 6 mil plastic and seal by taping to floor. This procedure is impractical where major abatement or demolition is involved. If possessions are left, be sure house is secure.
- The safest, most expensive and time consuming set-up is moving all possessions and relocating family for entire operation.

- Before work proceeds safety problems (a broken tread), causes of water damage (defective roof or plumbing) or other necessary repairs should be completed.

3. SET UP CHECK LIST - Cleaning and Interim controls

☐ Post warning signs. If exterior work is to be done, mark off work area with tape and keep people out.
☐ Wear protective clothing and respirators.
☐ Clean and remove nearby objects. Send rugs to be cleaned.
☐ Clean and seal what remains in the area.
☐ Seal air vents.
☐ Set up wash room and wash area.
☐ Lay layers of poly at least 6 feet in every direction from the area where you will be working.
☐ If any dust producing work will be done, such as wet scraping
door edges, create an isolated "dirty" area.
☐ Seal off the work site from the rest of the building.
☐ It is also recommended that neighbors be warned of dangers and reassured of their safety.

WARNING
LEAD WORK AREA
POISON
NO SMOKING, EATING, OR DRINKING

NOTE: For the Cleaning level, all of the above precautions may not be necessary, but children and pregnant women must be out of the house. Any wet scraping must be done above plastic covering the surrounding areas. Workers must remove booties before stepping off plastic and work areas must be cleaned immediately before starting work on the next area. At the end of the job the whole house should always be cleaned.

2.0

4. SET UP CHECK LIST - Abatement

- ☐ Post warning signs. (see above)
- ☐ Identify work site safety hazards.
- ☐ Clean and remove anything you can move. Clean and seal the things you cannot move.
- ☐ Shut off and seal off ventilation system.
- ☐ Provide airflow for workers.
- ☐ Set up clean room and wash area.
- ☐ Clean and seal everything left in the work area.
- ☐ Mop and seal the floor with 6 mil plastic.
- ☐ Seal off work site.
- ☐ Separate "dirty work" area from the rest of the work area.
- ☐ Set up secured storage space for waste. Do not put outside unless it is in a locked storage area.
- ☐ Secure the work site.

CONTAINMENT

Cleaning *and Interim controls* work generating minimum dust.
All children and pregnant women must be kept out of the house. Any wet scraping must be done above plastic covering surrounding areas. Workers must remove booties before stepping off plastic, and work areas must be cleaned immediately before moving to the next area. At the end of the job the entire house will be cleaned.

Interim controls and abatement

- Where dust will be created, cover all floors with at least one (1) layer of 6 mil plastic, edged sealed with duct tape on cleaned perimeter of floor. In the case of demolition or stripping, apply a second layer, to be disposed of during bulk cleaning.

- Plastic on staircases is extremely dangerous. Rectangles of cardboard (or other non-slick material) must be stapled to the treads over the plastic.

- All cabinets, chandeliers, appliances should be pre-cleaned, then covered with plastic and sealed with duct tape. They will also be post-work cleaned.

- Forced air heating systems must be shut down and all intake and heat registers covered with plastic and sealed with duct tape. (Be sure to provide supplemental heat in winter for workers and to protect pipes from freezing).

- When working in a building that has spaces occupied outside the work area, the passage between the work area and the occupied area must be closed off with locked door or plywood and sealed with duct tape on both sides. Be sure closing off this passage doesn't eliminate a vital fire exit. If workers enter the occupied space, they must observe complete clean up (or decon) before entering that space.

WINDOWS

Lead-painted windows are a source of lead dust.

- Opening and closing windows causes friction between painted surfaces. This friction creates dust.
- Windows are exposed to water, sun, wind, and temperature changes. These all cause paint to deteriorate and create dust.

Interim Controls

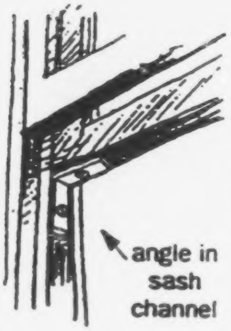
If you are not going to abate lead-painted windows right away, you can still treat them so they create less lead dust. (Make sure these options are legal in your state and local area)

1. Enclose the window well after back caulking (see p3)

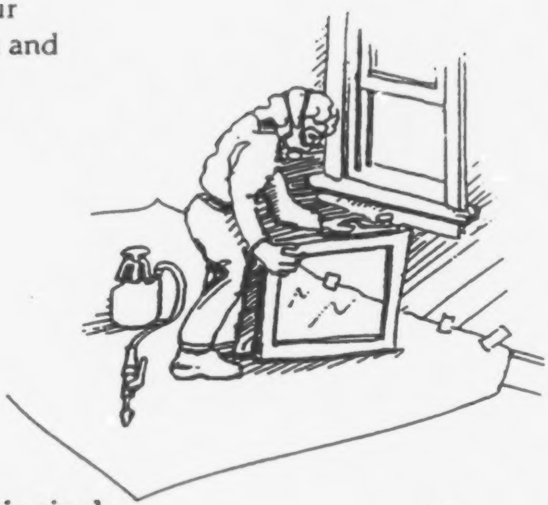
- HEPA vacuum the well. Enclose with aluminum coil stock to create a cleanable surface. Before nailing down coil stock back caulk the perimeter to seal. Open the weep holes (holes in bottom of frame) if there is a storm window.
- If the paint on the casing is in good shape, you may be able to wet scrape and repaint. Remember, paint is not an encapsulant. Repainting is a temporary solution.
- Wet plane the inside edge of the stool and repaint.

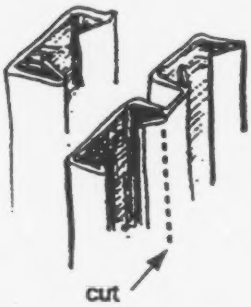
2. Remove and discard inside stop

- Remove lower sash. Wet plane all four side edges, bottom inside face of sash and where sash meet.



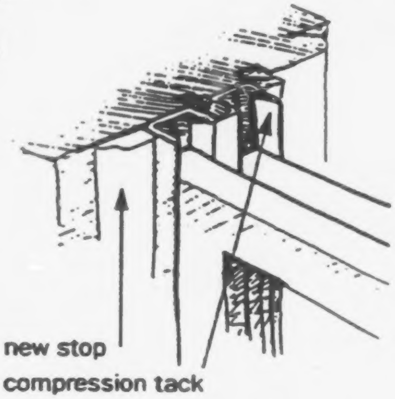
- Fix top sash in place and seal





- Place bottom sash in single window channel. You may need to cut a double vinyl channel.

- Or you may place both sash in window channel.



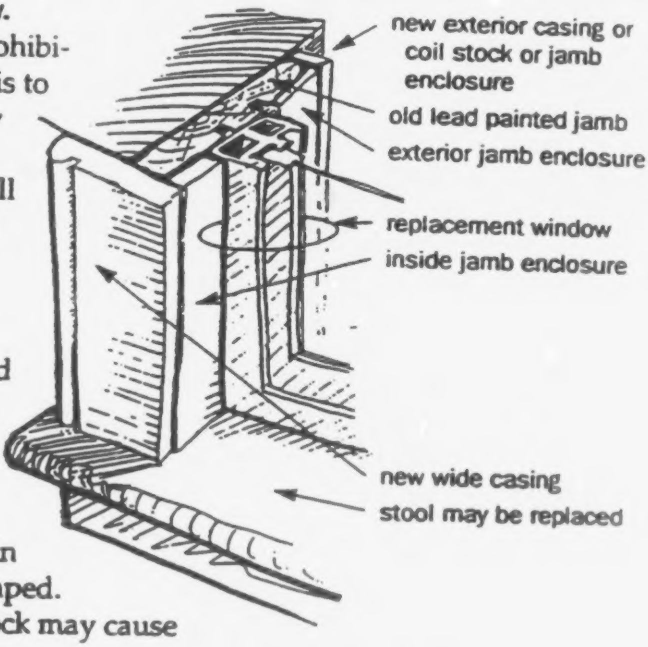
- When working on historic buildings and need to save sash you may off site strip sashes, then resurface, seal, re-glue, and re-glaze them. Window jamb would be on site stripped. Casing could be wet scraped; off site stripped (number with stamp) or replaced. Strip or replace stool. This is an expensive process

Abatement

Replacing lead-painted windows is a good choice because:

- They cause lead dust
- New windows increase property value
- Old windows are expensive to maintain
- Children like to play at windows
- New windows save energy

Installing a replacement window.


new exterior casing or coil stock or jamb enclosure
old lead painted jamb
exterior jamb enclosure
replacement window
inside jamb enclosure
new wide casing
stool may be replaced

- Replacing the jamb may be prohibitively expensive. The option is to install a replacement window into the existing jamb.
- Replace outside stop and install replacement window against stop.
- Replace inside stop, or install jamb liner ripped to fit.
- Casing may be wet scraped and kept or replaced with wider casing.
- Stool may be striped or replaced.
- Outside trim may be enclosed in wood or coil stock, or wet scraped. (Warning: enclosure in coil stock may cause wood rot.)
- All enclosure material should be rear/edge caulked before installation.

Or sashes may be replace by new double glazed sashes in jamb kit that allows windows to tilt in for cleaning.

DOORS

Lead-painted doors are a source of lead dust.

- Opening and closing doors may create friction impact or crushing of lead painted surfaces. This action creates lead dust.
- Exterior doors are exposed to water, sun, wind, and temperature changes. These cause paint to deteriorate and create lead dust.

Interim Controls

If you are not going to abate lead-painted door systems, you can treat them to create less lead dust.

1. Replace the stop—If it is a rabbeted jamb, plane or wet scrape stop on latch side.
2. Wet plane the corner edges of the door on its lock side.
3. If necessary re-set the hinge screws.
4. Wet plane the hinge edge of the door if there is less than 1/8 of an inch between the door and the jamb.
5. The door should not make contact with any part of the jamb or any part of the stop except the latch side stop.

Abatement

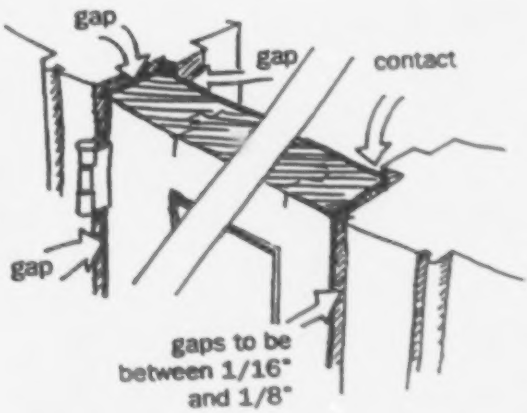
1. Replacement

A. Replace entire door system with pre-hung door or door jamb built on site. Or;
B. Remove door and casing. Install new pre-hung door in old jam. Install new casing. If you order door with casing, it may be too narrow. Install casing wide enough to extend approximately one inch past old casing line to cover up plaster damage. Back caulk casing.

2. Remove the paint

Send door to be off site stripped or replace door and on site strip the jam. Replace casing, or if there are historical reasons to save casing, then number, off site strip, and reinstall.

Items off site stripped usually need cleaning, filling, and sometimes gluing before repainting. This is very expensive. Do not belt sand stripped door, it will still contain lead.



WOODWORK (Not including doors and windows)

Lead-painted woodwork can be a source of lead dust, especially at impact points such as chair rails, outside corners, and jamb edges.

Interim Controls

If lead-painted woodwork is not to be abated, treat it to create less lead dust.

1. Wet plane any outside edges where children may put their mouth, such as a window stool or porch railing.
2. Where paint is intact, wet scrape and paint over with high grade paint. Remember, paint is not an encapsulant. Repainting is only a temporary measure.
3. Cover impact points (chair rails, baseboards, jamb edges, outside covers, etc.) with a strip of lattice or corner protector. (Wood, metal or plastic.)

Abatement

1. Replacement is the most permanent solution.

All woodwork can be replaced. Remember to back caulk and nail down replacement parts when you install them. Wood work with intact surface may not need to be replaced.

2. Encapsulate

If the paint is in good shape, encapsulate woodwork. Local permission or patch testing for encapsulants may be necessary.

WALLS

Interim Controls

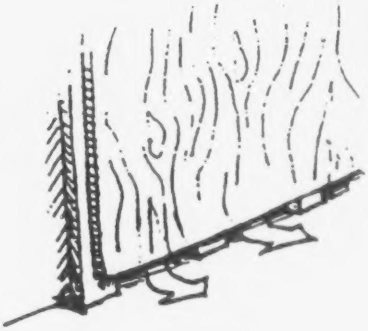
If the lead-painted walls are not damaged, flaking, or peeling, you might just repaint them. Remember, paint is not an encapsulant. Repainting is not an abatement method, it is only a temporary solution. If the new paint does chip and peel, it may release lead dust.

Abatement

1. Encapsulation

The wall must be sound. Plaster must be in good shape. If not, the encapsulant could fall off the wall with old paint or plaster. (If the wall is sound, but has minor cracks or chips, a mesh system can be used. It will span and seal the cracks.)

- Prepare the wall. Wet scrape loose paint. Remove oil, dirt, grease, etc.

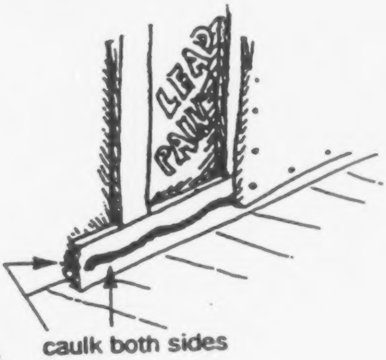


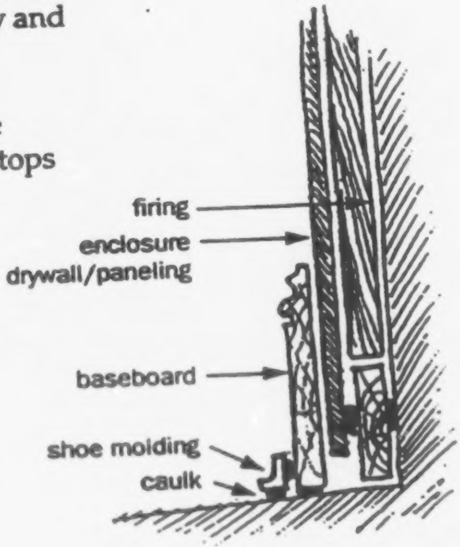
- Follow the manufacturer's directions.
- Do a test patch.
- Wear the right gear. You may need to use chemical-resistant protective gear. Wear your respirator and goggles.
- Ventilate the area.

2. Enclosure

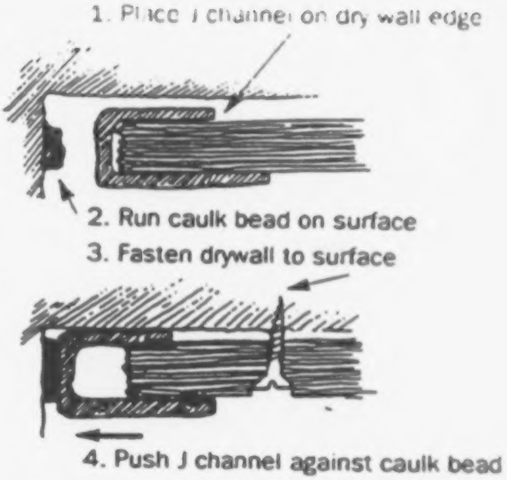
Both sound walls and damaged walls can be enclosed. Enclosure is recommended where the wall substrate (building material) is damaged.

- If the wall is water damaged, repair source of moisture and let the walls dry out before installing an enclosure.
- On a masonry wall where the plaster is painted with lead paint and badly damaged or separating from the masonry fir out or stud out the wall. If you fir out the wall, mechanically fasten the firring strips to the masonry. (Masonry screws are preferable to nails.)
- Lead paint deteriorates faster behind an enclosure. To prevent this paint from coming out at the bottom, run the bottom firring strip horizontally and caulk both sides.
- Caulk all edges. Caulk bottom of baseboard against floor. Caulk bottom and rear of shoe molding before nailing into place, this also stops air infiltration.
- Paint the words LEAD PAINT on walls before closing them so if someone removes the enclosure they are warned of the danger.
- When firring or studding out an outside wall, take this opportunity to insulate. Installing a sheet of polystyrene over the studs or firring strips works better than insulation between them.





- When enclosing lead painted walls with new drywall, screw through old plaster into studs and tape and finish all seams. (Screwing creates less dust than nailing.)
- Use "J" channel to seal edges when the perimeter will not be taped and finished, because it is butting against a wall or ceiling of another material such as masonry or wood trim.
- When drywall is screwed directly to the old plaster, remove door and window casing. Build out jamb flush with drywall. Then install new casing.


1. Place J channel on dry wall edge
2. Run caulk bead on surface
3. Fasten drywall to surface
4. Push J channel against caulk bead

3. Replacement of drywall and plaster

This causes a great deal of dust and is expensive.

It is a practical method when new electrical, plumbing, or heating systems are installed or major remodeling is done.

Taking out old walls is demolition work. Worker and environmental protection rules must be strictly followed.

- Remove all furniture and personal items.
- Seal off the area.
- Put down a second layer of poly on the floor for added protection.
- Clean up, dampen and dispose of waste often to keep lead dust levels down.
- Wear protective disposable suits and respirators.
- Use extra ventilation.

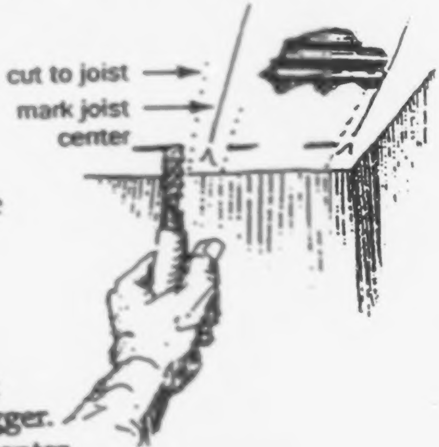
CEILINGS

Interim Controls

If the ceiling is not damaged, flaking, or peeling, you can repaint it to seal in dust. Remember, paint is not an encapsulant. Repainting is not an abatement method, it is only a temporary solution.

Abatement

If the ceiling is damaged, it must be replaced or enclosed. Enclosure creates much less dust. Enclosure can be done with drywall or other solid sheet material. All edges and seams must be sealed.



Enclosure

A drop ceiling is not an enclosure.

New drywall must be attached to the joists with drywall screws. You can find the joists by cutting through the old plaster ceiling with a drywall dagger.

- Cut to the joist edges on both sides and mark center.
- Strike a chalk line across the ceiling from center mark to center mark.
- Screw the new drywall into the joists along these lines.
- If you are not taping and spackling the ceiling to the wall use a J-channel where new drywall meets a finished wall surface. (see p 27)

Removal

Extremely high dust levels result from removal. If you must run plumbing, heating, and or electrical supply through the ceiling plaster removal may be necessary. If a top floor ceiling is being removed, consider installing insulation and a vapor barrier.

FLOORS

Floors painted with lead paint (or leaded shellac or varnish) are a major source of lead dust. They are an abrasion and impact surface. People walk on them. Children and pets play on them. Things get dropped on and dragged around on them. These activities create lead dust.

Abatement

Enclosure is the abatement method most often used for floors.

Tongue-and-groove floors:

Install underlayment before installing the finished floor (unless you install a new tongue-and-groove floor over the old floor).

- HEPA-vacuum the floor and all cracks.
- Install plywood or tempered underlayment. Do not use masonite.
- Back caulk the perimeter (border) edges.
- Fill in any large cracks with a filler that will not become brittle.
- Underlayment can be tiled, covered with sheet goods, parquet or other flooring.

REMEMBER: Carpets or paint without underlayment are not enclosure materials!

The enclosure of the floor should be done at the end the job. If any work is done after its installation, cover it with poly. Sheet goods and tile should be the very last work items after cleaning.

Encapsulants

There maybe encapsulants that can be used if the manufacture recommends it and the appropriate regulatory agency approves the application.

HEPA-Sanding

HEPA floor sanding will still create dust. You must follow strict worker and environmental protection rules.

Wall to wall carpets:

Lead dust falls on and sticks to carpet fibers. Lead dust settles under the carpet. Removing lead-contaminated carpets can be dangerous. You will be exposed to high levels of lead dust.

- Wear a respirator and protective clothing.
- Dampen the rug and any dust under it to keep the dust levels down.
- Wrap up the carpet in 6-mil poly and seal it with duct tape.
- HEPA-vacuum the area and wash with a cleaning solution.

Carpets cannot be made lead dust free. Advise the owner of the carpet to throw it away. The two must effective ways to clean carpets are a HEPA vac with a powered carpet beater or a central vacuum (truck mounted).

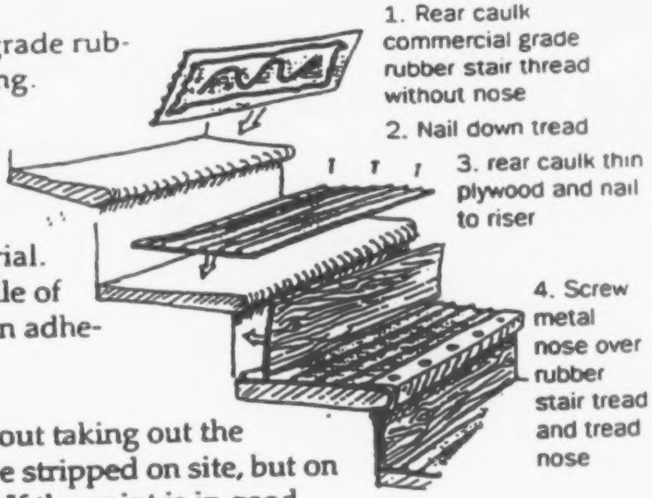
Do not throw the carpet away without the owner's written permission!

- Rugs can be sent to the cleaners.

STAIRCASES

1. Treads and risers

Enclose treads with a commercial grade rubber tread. Then install a metal nosing. Rubber nosing may work if it fits snugly on the stair nose at all points and is glued on the nose. Risers may be enclosed with thin plywood or some other hard material. Back caulk the edges and the middle of both riser and tread covers using an adhesive caulk. Then nail them down.


1. Rear caulk commercial grade rubber stair thread without nose
2. Nail down tread
3. rear caulk thin plywood and nail to riser
4. Screw metal nose over rubber stair tread and tread nose

2. Stringers

Stringers can not be removed without taking out the whole staircase. Lead paint may be stripped on site, but on site stripping is to be discouraged. If the paint is in good shape, use an encapsulant, or wet scrape and paint.

3. Balusters, Rails and newels

Square newels may have their leading edges wet planed and wet sanded or enclosed with corner molding, the rest wet scraped and painted. They may be painted with an encapsulant paint (with or without mesh), but it should be a product than can withstand impact. Rails can have their top surface wet planed. Balusters can be encapsulated or wet scraped.

In historic work rails and balusters can be removed and off site stripped. Newels would be on site stripped. This is very expensive and on site striping is toxic. Staircase components can be enclosed with plywood or drywall but it is expensive and changes the architectural design.

Stair Containment. When 6 mil poly is put on a staircase, staple down non-slip rectangular material (such as cardboard) on the treads over the poly for worker safety.

PORCHES

Wooden porches painted with lead-based paint are a lead hazards because:

- Surfaces get damaged from moisture.
- Children spend a lot of time there.
- Children tend put their mouths on railings.

Porch floors should be replaced or enclosed. If they are enclosed use exterior or marine grade plywood. Make sure the floor slants away from the house.

Balusters may be off-site stripped or painted with an encapsulant. They are often in bad shape and need to be replaced.

Rails may be replaced planed or stripped on or off site. If in good shape, they can be encapsulated, use an encapsulant that withstands impact.

Structural columns can be wet scraped or encapsulated. Some encapsulants use a mesh that can wrap the column.

Lattice (crisscrossed strips of wood) should be replaced.

Ceilings may be enclosed with exterior plywood like T 1-11. Back caulk edge.

EXTERIOR BRICK AND WOOD

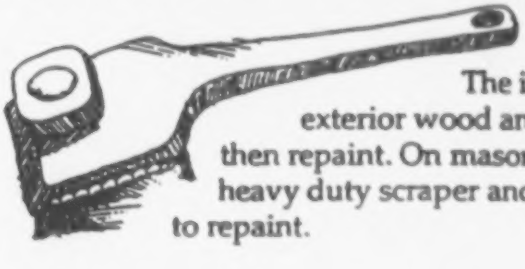
Lead paint may be removed from outside brick or wood using strippers. This is costly, dangerous and produces a waste that may need to be disposed of as hazardous waste. Stripping may be cost effective doing spot trim work.

Vacuum blasting when done by professionals may work on masonry but may damage the masonry surface.

Water blasting can also be used for outdoor work. These methods are very costly and generate a lot of waste. Waste from water blasting is considered hazardous and must be pumped into barrels and disposed of correctly.

Never allow it to run into storm drain!

When working on outside structures, setup is very important. You need to protect the soil, bushes and plants, and the surrounding environment. Tape poly to the base of the structure. Extend the poly out at least 5 feet for every 10 feet of height.



The in-place management approach to exterior wood and brick is to wet scape all loose paint, then repaint. On masonry, this scraping should be done with a heavy duty scraper and pressure. Use high grade masonry paint to repaint.

8

Cleanup and Disposal

A poorly cleaned intervention may leave a home more contaminated than it was before the intervention. Poor clean-ups can poison children!

LEAD DUST CLEANUP

- Lead dust is very fine, it may not be visible
- It is sticky, it needs to be rubbed off.
- It tends to collect and pack into cracks
- Dirty cleaning tools do not clean properly

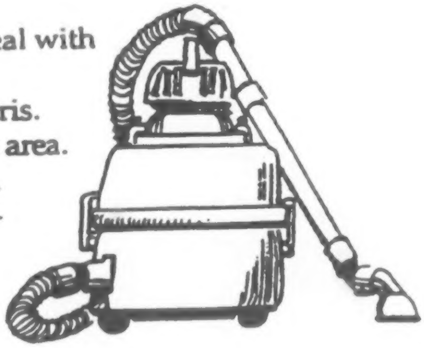
SET UP, CLEANUP

1. Remove rugs and send to be cleaned. A respirator should be worn when rolling up rugs or carpets. Carpeting to be disposed of may be misted to decrease dust. It is difficult to clean wall to wall carpets. Always HEPA vac floor after rolling up carpets.
2. Have as much cloth as possible sent out for cleaning (curtains, spreads, etc.)
3. Prepare small buckets of mild cleaner to wipe down as many small objects on shelves, bureaus , window stools, etc., as possible and put into boxes. If TSP is used, remember it can remove paint and ruin furniture finish. Always rinse immediately after using TSP solution. Use tack cloth on finished furniture.

DAILY CLEANUP

1. Wear your protective suit and respirator.
2. Wrap large debris (doors, windows) in 6-mil poly. Seal with duct tape.
3. Wet mop and/or wet sweep. Bag dust and small debris. Throw away mop heads with debris. HEPA vac work area.
4. Check poly containment and repair any tears or rips.
5. When a job includes demolition, it is strongly recommended that the site be damp swept, then HEPA vacuumed before finish carpentry begins.

ep the work site clean, dry and clear of rubbish!



FINAL CLEANUP

Wear your protective suit and respirator for the first two operations. Refer to local regulation as to whether respiratory protection is necessary during the rest of the cleanup.

1. Wet mop and bag any leftover debris.

2. Take off the poly. Fold edges into center. Seal with duct tape and bag.

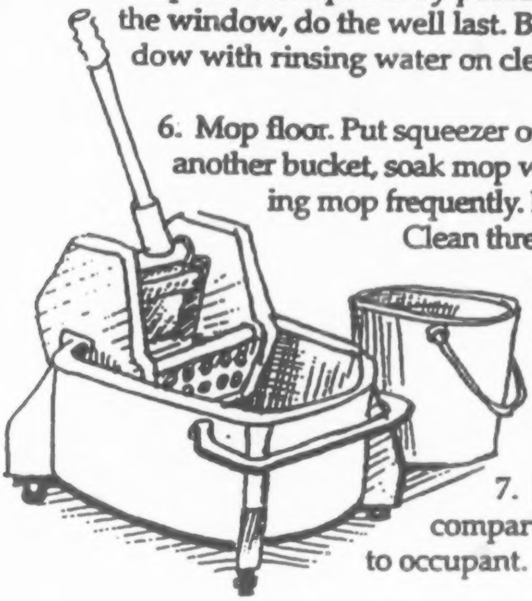
3. Vacuum the unit from one end to the other, starting at the end furthest from the front door. Within each room start from the top shelves, top of casing, picture, rail, etc., then do every inch of the windows, particularly the wells, then the floor using the corner tool in all corners particularly where the floor meets the baseboard and all cracks in the floor boards.

4. Where demolition has created a high dust situation, dust walls with damp, not wet, sponge mop and rinse often. After two or three rooms, change sponge mop head. Some wall paper should only be vacuumed. When using TSP rinse each wall as washing is complete.

5. Pour TSP or equivalent solution (mix according to instructions) into a jug. Dampen cloth squares by pouring the solution on them from jug. Rub down the window, do the well last. Bag and throw away rag then do all of window with rinsing water on clean rag.

6. Mop floor. Put squeezer on one mop bucket. Put cleaning solution in another bucket, soak mop with cleaner, wring out and mop the floor, rinsing mop frequently. Do not put mop in water of pale with wringer. Clean three to five rooms with one mop head, throw away and replace with a new mop head. Use a new mop head for rinsing. (If using TSP, rinse TSP from finished floor quickly.) Where demolition has caused high dust levels a second HEPA-vac cleaning may be necessary.

7. Replace furnace filter and wet clean filter compartment in forced air systems. Teach procedure to occupant.



8. Clean hands and power tools, generators, and vehicles with HEPA-vac and wash as necessary.

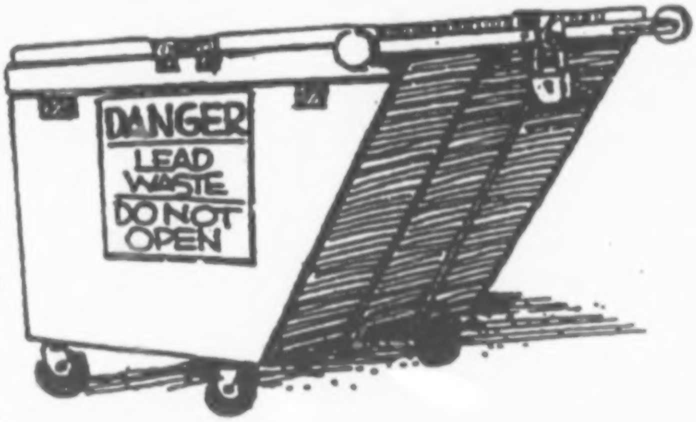
9. After final cleanup, dust wipe tests must be done. Where dust creating demolition or stripping has been done, the job must pass a final inspection before occupants can move back.

10. Instruct occupant to maintain house by cleaning weekly, particularly window wells, stools, and around baseboards. Do not use rags that have been used on wells on anything else. Replace dirty rags often. Damp mop all rooms, changing mop head every few months.

WASTE DISPOSAL

Non-hazardous waste

1. Wrap or bag in 6-mil poly. Seal with duct tape.
2. Store in an area closed off to people other than workers (such as a locked dumpster).
3. Transport to a lined landfill in a covered vehicle. (WARNING: Never take waste from a lead job to an incinerator)



Hazardous waste

The disposal of hazardous waste requires special training.

1. Where the local regulator has judged a particular class of waste to be potentially toxic, that waste must be tested for toxicity. If it is judged toxic, it must be disposed off according to local regulations in an EPA approved waste facility.
2. Store in special containers (such as 55-gallon drums). Containers must have a label listing the contents. Close off storage area to people other than workers.
3. Use a licensed transporter to take the waste. An EPA form, the "Hazardous Waste Manifest," must accompany every shipment.
4. Separate non-hazardous waste from hazardous waste.

Health and Safety 9

1. BLOOD SCREENING

- When you work with Lead, your employer must provide medical screening at no cost to you.
- Whenever you work with lead you must have blood tests. They are the Blood Lead Level test and the ZPP blood test. Both of these tests can be taken from the same sample.
- If you work with lead for 30 or more days in a year, above the action level, you must have these blood tests every two months and then every six months.
- Your should get a blood test when you leave your job.
- The Blood Lead Level test will tell you how much lead is in your blood.
- Your can also receive medical exams and consultations whenever you feel any of the symptoms of lead poisoning, have difficulty breathing in a respirator or are concerned about having healthy children.
- You have a right to your medical records.
- If your blood lead level is over 25ug/dl NIOSH recommends a worker be removed from the work site and be provided a job away from lead exposure. Medical research shows reproductive hazards at 30ug/dl (The OSHA interim law requires removal at 50ug/dl with the requirement of being provided a job of equal pay for as long as the job lasts or 18 months).

2. HEAT

Protect against heat stroke

Danger signs to look for:

- Hot, dry skin
- Headache/ dizziness
- Sick to stomach
- Fainting
- Sweating stops, suit drys

Action to take:

- Call for ambulance
- Remove individual from work area
- Remove respirator/suit
- Cool body with water

Protect against heat stress

Signs to look for:

- Cool, sweaty, pale skin
- Headache, dizziness, sick to stomach

Action to take:

- Remove individual from work area
- Remove respirator/suit
- Cool body with water
- If fainting call ambulance.
- Do not give water to a person who has fainted.

Preventing the problems

- Drink lots of water
- Drink orange juice and eat bananas
- Take breaks
- Get used to heat gradually
- Cut down on alcohol

3. CARBON MONOXIDE

Carbon monoxide is a potentially deadly gas that comes from engines such as air compressors, generators or un-vented combustion heaters. You cannot see, taste, or smell this gas. Never use an engine in a closed space!

Signs to look for:

- Dizziness, faintness, sleepy feeling
- Headache
- Stomach ache, vomiting

Response should be to:

- Remove worker from the work area and remove respirator
- If worker becomes unconscious use CPR

4. ELECTRIC SHOCKS

Electric shocks can stop your heart! Electricity is particularly dangerous in the presence of water.
Always remember to :

- Keep work site dry
- Use double insulated tools on grounded cords
- Remove damaged tools from work site or else cut off plug
- Keep power tools sharp
- Never carry tools by cord or unplug them by pulling cord
- Never use metal ladders near electricity

HAVE SOMEONE ON SITE WHO KNOWS CPR

- When demolishing walls, always turn off central power and test for confirmation
- If another worker is shocked, move them with wooden object then turn off electricity. Use CPR if necessary
- Where you are working with electricity near water, a ground fault interrupter is required. Workers should wear rubber gloves and boots in these conditions.

5. FIRES AND EXPLOSION

A lead abatement site is in danger of fires starting and spreading

These materials burn very fast:
- Poly sheets and duct tape
- Disposable suits
- Some encapsulants
- Floor finishes and solvents

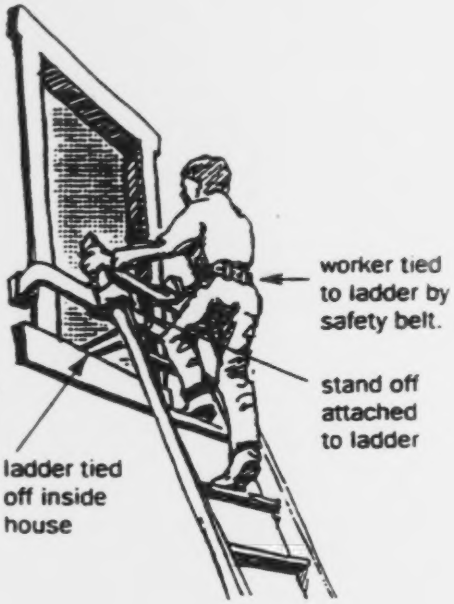
So keep the following OFF SITE:
- Cigarettes
- Internal combustion machines
- Damaged electrical tools and cutting or welding tools

Have an ABC extinguisher on site and have a fire exit plan.
No smoking on work sites - ever. NO EXCEPTIONS

6. LADDERS

Before using ladders check for:
- Broken steps
- Broken hinges
- Broken or absent non-slip base
- Wobbly frame
- No rubber feet
- Slippery rungs

Top of ladder should be tied off to structure or braced inside of structure. After you tie off top, hook safety belt above you. When working on window use stand off so you do not have to ean to side or reach behind ladder.


worker tied to ladder by safety belt.
stand off attached to ladder
ladder tied off inside house

7. EYES

ALWAYS wear goggles when you are:

- Scraping
- Cutting
- Using strippers
- Using power tools
- Doing demolition
- Working overhead
- Hammering hardened nails

All work sites should have an eye wash station in cleanup area.

If irritants get into eyes, wash for 15 minutes and call doctor.

8. CUTS AND BLEEDING

Whenever someone has a cut that is bleeding heavily, cover the wound with a clean cloth. Press on the cloth to give direct pressure on the wound. Elevate the limb. If the wound does not stop bleeding within a few minutes, call 911 for emergency help. As necessary press pressure points as learned in first aid class.

9. BURNS

If you or one of your co-workers is burned, get the person away from the hot object. Run clean cold water over the burned skin for at least fifteen (15) minutes. If the burn is red or is small and has only a few blisters, clean and cover it with a sterile non-stick gauze pad. The dressing should be changed twice daily and checked for signs of infection. Never heat a needle and puncture a blister. Never use butter, oil or petroleum jelly for burns.

Call 911 for emergency help if:

- The injured person is going into shock
- The burned skin covers more than 20% of the body
- The burns have blisters and are on the hands, feet, face or genitals
- The burned skin is charred or black

You can treat the injured person for shock until emergency personnel arrive. Run cold water over the burned areas. Do not put any covering over the burn.

10. NOISE

If you are working around very noisy machinery, it is essential to use ear plugs or muffs. Power tools using compressed air create high levels of noise. Protect your hearing. Hearing loss is for life.

11. BACK INJURIES

- Do not lift an object heavier than is comfortable
- Bend your legs, keep you back straight, and lift close to your body
- Don't lift and twist or turn at the same time
- Always get help to lift heavy objects

RIGHT TO KNOW

OSHA says you have to be trained about the dangers of you work. Your employer must provide you with training for the chemicals you work with. This is part of the **Hazard Communication (or "Right to Know")** law. **(29 CFR 1926.59)** Your employer has to have a list of the hazardous chemicals that workers could potentially be exposed to. They must have fact sheets about all the chemicals you work with. These fact sheets are called Material Safety Data Sheets or MSDS's. MSDS's tell you about how the chemicals can harm your health. They also tell you how to protect yourself from the chemicals. You must be trained to use the data sheets. The MSDS's for each hazardous material must be at the worksite. (See page 43)

10

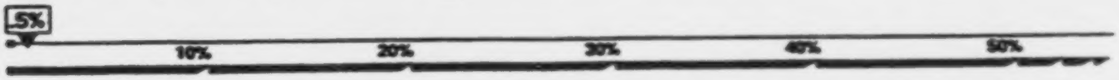
Testing for Lead

In testing residential units, it is critical that maintenance issues are considered. Describing the presence of a hazard without addressing the cause is counterproductive. It is also important to address other potential hazards such as asbestos, carbon monoxide and indoor air qualify.

These charts reflect established acceptable levels of lead in paint, dust, water and soil. Except for dust, most readings occur within the scale presented.

PAINT CHIP

Paint chips are sent to lab to determine percentage of lead in paint. When taking a chip sample all layers must be included.

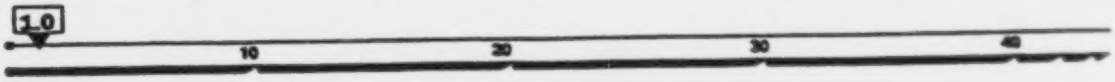


.5% is the threshold above which HUD defines a sample as lead based paint.

XRF*

Where it is not assumed a painted surface contains lead, it can be read by an XRF. The XRF will tell you if lead is present and provide a measurement.

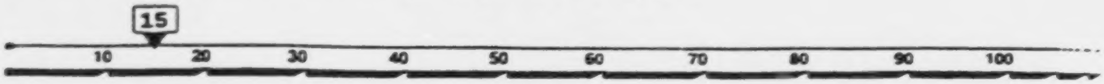
* XRF readings are in milligrams per square centimeters (mg/cm2)



1.0 is the threshold above which HUD determines paint to be lead paint.

WATER

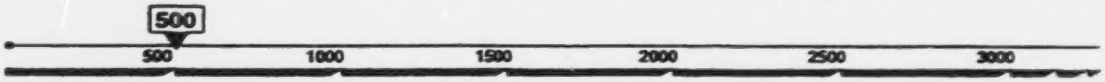
Lead in water is measured in parts per billion (ppb).



15 is the level above which EPA says corrective measures are necessary. This level is very low and running cold water before use may lower level to below 15 ppb.

SOIL

Soil samples are taken and sent to lab. They are measured in parts per million. (ppm)

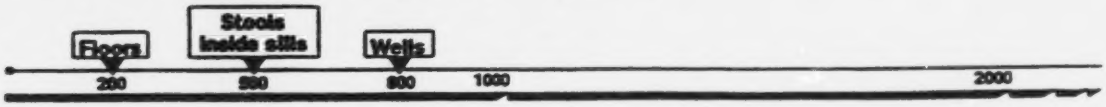


500 is the range above which EPA urges a cleanup. It is so low, however, that it may not be feasible.

DUST

All buildings, built before 1970 where children spend time such as home, day care centers, schools, etc. should be tested for lead dust! Emphasize rooms in which they play.

- Dust tests are taken by wipes or vacuum samples
- Dust is measured in micrograms per square foot

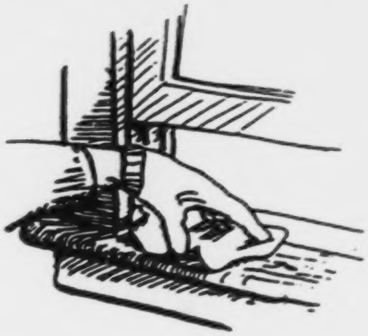


These are the post-abatement/post-cleaning threshold targets. Levels a bit over this are not necessarily threatening. It is advisable to lower lead dust as much as possible.
There is currently an attempt to establish an emergency level.
Dust levels of 50,000 are not uncommon for wells (on this scale, that would be 12 feet off the page) We are sure levels in the teen of thousands poison children.

HOW TO TAKE A DUST SAMPLE

Materials needed:

- Baby Wipes - use thin, "pull out," non- alcohol, unscented.
- Baggies - use sandwich size, freezer, zip-lock baggies with place to write.
- Permanent felt marker to identify samples.
- Rubber gloves.

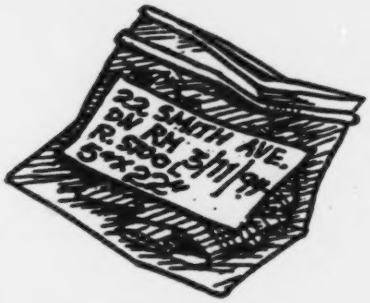


On well and stool, wipe entire surface.
On floor wipe a 12 inch by 12 inch area.

1. Wipe entirely once with even pressure.
On sill and stool, use side to side motion.
On floor use a zig-zag pattern.

2. Fold wipe in half, dirty side in, and wipe entire area again in another direction, Place in baggie.

3. Label baggie immediately after each wipe with address, room, surface wiped (floor, well, etc.) dimension and date.
If very dirty , wash hands or change gloves between wipes. Some labs may request one "blank" sample wipe taken directly out of container.



4. Composite wipes may be taken. Doing three surfaces with one wipe saves money. The disadvantage is that you only get an average and don't know the dust level for a particular area. Procedure is as follows:

- All three wipes must be done on same kind of surface such as three wells or three floor areas.
- Write down all three measurements for example:

STOOL WIPE	2nd. fl. bed front.	5 x 20
	1st. fl. Lv. rm.	4 x 22
	1st. fl. Din. rm.	6 x 30

- This wipe would go into a baggie labeled as above.

How to Read a MSDS

Each **Material Safety Data Sheet** (MSDS) may look different. They are often difficult to read. All MDSDs must contain the same basic information on hazardous ingredients, health effects, legal and recommended exposure limits, physical properties, and control methods.

Section I - Material Identification
The product's name and the name, address, and emergency telephone number of the manufacturer must be provided.

Section II - Hazardous Ingredients/Identity
The Federal OSHA Hazard Communication Standard require that all hazardous chemicals be listed. Some state laws contain a list of thousands of chemicals that must be included. A few states require that all chemical ingredients be listed even those that are not hazardous.

Section III- Physical/Chemicals Characteristics
Physical and chemical characteristics include the chemical's appearance and oder, along with physical properties that indicate how easily a chemical will evaporate and release potentially harmful vapors into the air.

Section IV- Fire and Explosion Hazard Data
This section should provide information on the fire hazards of a products and special precautions necessary to extinguish a fire.

Section V- Reactivity Data
When stored improperly, some chemicals can react with other chemicals and release dangerous by-products. "Reactivity" is the property that describes the reaction of a chemical when it is mixed together with another chemical, or when stored or handled improperly.

Section VI-Health Hazard Data

This section describes the health effects of the product, including signs and symptoms of exposure and medical conditions made worse by exposure. It must include:

- Acute (short-term) effects of exposure.
- Chronic (long-term) effects of exposure (often left out of MSDSs)
- Routes of entry (inhalation, skin contact, swallowing)
- Target organs (liver, kidneys, or central nervous system)
- Signs or symptoms of exposure
- Medical condition generally aggravated by exposure
- Emergency and first aid procedures

Unfortunately, a lot of MSDSs in circulation do not contain complete and accurate health hazard information.

Section VII-Precaution for Safe Handling and Use (Spill or Leak Procedures)

This section contains information on proper equipment to use and what precaution to follow if a spill or leak occurs. It should also describe safe waste disposal methods and precautions to be taken in handling and storing.

Section VIII- Control Measures

The MSDS must list control measures that can reduce or eliminate the hazard, including ventilation and other engineering controls, safe work practices, and personal protective equipment.

For respirators, information on the type of respirator, degree of protection, and the appropriate filter cartridge(s) must be included.

The correct type of gloves should be specified on the MSDS. All gloves do not protect against all chemicals.

This a sample inventory for a crew of three or four people doing mostly interim control work on single family houses and apartments. It is not complete.

Tools & Supplies

	EQUIPMENT	TOOLS	SUPPLIES
CLEANING	HEPA vacs	2 string mop handles 2 sponge mop handles 4 mop buckets and squeezers 2 gal. plastic pails 4 water misters 2 dust pans and soft brooms corner, narrow floor, carpet, round brush (tools for each vacuum) power beater for carpets	12 string mop heads 12 sponge mop heads cleaning solution 4 plastic 1/2 gal. jugs 1 box rags 1 doz. pre-filters 1 doz. second filters
CONTAINMENT		4 retractable utility knives 4 T55 staplers	2 boxes utility blades 2 rolls 6 mil. poly 2 boxes 6 mil. bags 12 rolls duct tape cardboard 4 boxes 3/16" staples
TRIM	6" portable table saw saw horses roller stand chop saw	2 set of trim carpenter's and drywall hand tools sheet metal cutters	molding collection: shoe, stop, parting bead, lattice, chair rail, corner molding (wood or plastic), window sash channel role aluminum coil stock
SURFACING		2 heavy scrapers 2 triangle scrapers 2 concave/convex scrapers 2 mil. bastard files 3 block planes 2 tack pullers 4 caulk guns putty knives and trowels(dry wall tools)	6 extra blades 1 box abrasive sponges boiled linseed oil & turpentine tarp, brushes 6 extra blades 2 cases + 25 year latex acrylic caulk
WORKER PROTECTION		4 respirators	1 case tyvek suits and booties 4 sets replacement canisters 4 brimmed caps and goggles 12 pairs of work gloves 6 chemical-resistant gloves and suits
	extension ladders with stand off and A frame ladders as necessary.		

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NOTES

TITLE OF MATERIAL: Treatment Description

SOURCE: Milwaukee Health Department

USE OF MATERIAL: For use by inspectional and secretarial staff of local public health department. Used to define minimum lead abatement treatments and estimate costs based on area in need of repair. Used in conjunction with Environmental Lead Survey form. This form is updated as new treatments are utilized or identified.

Treatment Number	Treatment Description
	Miscellaneous Preparation
1	Initial Cleaning-HEPA Vacuum
2	Complete in 30 days
3	Final Cleaning-HEPA/TSP
4	Proper Permits
5	Interior Site Containment
6	Interior Site Containment - Small Scale
7	Exterior Site Containment
8	Pre-existing chips
9	Trash and other lead hazards
	Miscellaneous Removal Methods or Treatments
10	Prep and Paint
10a	Cover with new siding
10b	Replace siding
11	Patch Plaster
12	Patch Cracks in Plaster
13	Drywall Repair
14	Laminate Old Surfaces with Drywall
14A	Replace/Cover Floor
15	Demolish Old Walls, Install New Drywall
	Window Treatments
16	Window Treatment 1 (Scrape and Repaint)
17	Window Treatment 2 (wrap exterior sill)
18	Window Treatment 3 (wrap ext. sill, plane surfaces, sash tracks)
19	Window Treatment 4 (wrap ext. sill, sash tracks, new lower sash)
20	Window Treatment 5 (new vinyl or wood double hung window)
21	Window Treatment 6 (Ext. sill paint removal)
22	Window Treatment 7 (prep and paint int. sill)
	Door Treatments
23	Replace Door - Hollow Core Interior
24	Replace Entrance Door - Solid Core Door
25	Please call me
	Housing Treatments
	Plumbing
26	Repair Plumbing Leak/Problem
	Structural
27	Repair Damaged Roof
28	Replace/Repair Damaged Ceiling
29	Repair Hole in Floor
30	Repair Gutter/Downspout

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treatmnt 10/04/93

Lead Specs

1. Initial Cleaning/HEPA vacuum
COMPLETE IN 5 DAYS
1. Thoroughly clean with a special HEPA vacuum or detergent solution all areas where lead based paint violations have been found. Wash the floors below these defective areas. Property owners can contact the inspector for a HEPA vacuum loan at 286-3538.
2. Cover all interior areas listed below where lead violations exist with duct tape, plywood, plastic sheeting, or suitable material to prevent child contact until the following permanent repairs can be made.

2. Complete in 30 days

3. Final Cleaning/TSP Wash and HEPA Vacuum
After all abatement work is complete, use detergent with a phosphate content of at least 5% to wash all areas listed above, follow wash with a clean water rinse, after the rinse clean listed areas with a HEPA vacuum. Start clean-up in the areas farthest from the entrance to the building and progress toward the building entrance. Room by room the cleaning shall proceed from the ceiling to the floor.

4.Proper Permits
Obtain a Lead Paint Abatement Permit before beginning any of the work listed in the repairs section of this order. You do not need a permit to perform the 5-day hazard control listed above. THIS PERMIT CAN ONLY BE OBTAINED BY PERSONS WHO OWN AND OCCUPY THIS PROPERTY OR CONTRACTORS WHO HAVE RECEIVED STATE APPROVED LEAD PAINT ABATEMENT TRAINING. The lead permit can be applied for and purchased at the Milwaukee Health Department-841 N. Broadway, Room 105-8:00 am to 4:00 pm Monday thru Friday.

5. Interior Site Containment
Using plastic at least 6 mils thick, cover all heating, ventilating, or air conditioning ducts in abatement area, also cover any unused entrances, entrances used by workers shall be covered with 2 layers of plastic 6 mils thick attached at the top and both sides, cover floor under work area with 2 layers of 6 mil poly, stack all room furniture in the room and cover with plastic or remove furniture during the abatement, removed furniture shall be HEPA vacuumed before its return to room.

6. Interior Site Containment (small scale)
Using plastic at least 6 mils thick, cover the floor under the work area to catch all debris generated by the lead abatement work.

7. Exterior Site Containment
Cover the ground under work area with 6 mil poly of sufficient width to contain any debris generated during paint removal. Close doors and windows.

8. Pre-existing chips
When paint chips are known to be on the ground (dirt, concrete, grass, etc.), it is necessary to remove them with a HEPA vacuum as soon as possible and BEFORE performing any abatement practices in order to lessen the likelihood of further contaminating the soil.

9. Trash and other lead hazards (not listed above)
Remove from present location and 1) properly abate and store or, 2) properly dispose of by sealing in two layers of 6 mil plastic and discard with household waste. If you are disposing of a large amount of lead-paint-laden trash, seal it in two layers of 6 mil plastic, label as containing a lead hazard, and arrange for a special pick-up.

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10. Prep and Paint
Remove/cover hardware and fixtures not to be painted(interior). Wet scrape loose, cracked, peeling, and blistering areas. Clean oil, grease, dirt, and dust from surfaces. Fill holes and cracks. Primer coat all new materials (patched areas). Apply top coat(s).

10a. Cover with new siding and trim.
10b. Replace siding and trim as needed and prime and paint with non-leaded products.

11.Patch Plaster - HEPA area to be repaired, using wet (water spray/mist) methods, remove loose, flaking, or broken plaster, fill hole with non-asbestos joint compound, wet sand surface smooth, spot prime and paint.

12.Patch Cracks in Plaster
HEPA area to be repaired, using wet (water spray/mist) methods, remove loose, flaking or broken plaster, V-groove crack to a 1/4 inch minimum depth, fill with non-asbestos joint compound, apply drywall tape, apply a minimum of 3 coats of non-asbestos drywall compound, wet sand smooth, spot prime and paint.

13. Drywall Repair
HEPA area to be repaired, using wet (water spray/mist) methods, cut damaged 0drywall to supporting framing members, patch hole with drywall to fit opening and match thickness of existing drywall, fill cracks with non-asbestos joint compound, tape cracks with drywall tape, apply 3 coats joint compound to cracks, wet sand smooth, spot prime and paint.

14. Laminate old surfaces with drywall
Construct full interior site containment, HEPA vacuum entire room, cover entire floor with 2 layers 6 mil poly, remove all electrical covers and trim (trim thicker than 5/8 " can be left in place and finished to new drywall), using wet methods (water spray/mist) remove all loose and damaged plaster, locate framing members, fir all framing areas where plaster has been removed for flat layment of drywall, install 3/8 " drywall perpendicular to framing members with all edges terminating over framing members, fill all cracks with non-asbestos joint compound, install drywall tape, apply a minimum of 3 coats of joint compound, wet sand smooth, spot prime and paint. Where trim has been removed fir door and window jambs level with new drywall, install new trim to match existing trim.

14A. Replace/Cover Floor
HEPA vacuum area to be repaired. Remove all trim. Cover the existing floor with vinyl tile, vinyl sheet goods or linoleum. Cauld all seams and edges. Replace all trim.

15. Demolish old walls and install new drywall
Demolish plaster or drywall. Hang, tape and 3-coat finish 1/2" drywall. Glue each framing member and screw or nail 8 inches on center. Run boards with long dimension horizontal.

16. Window Treatment 1 - Scrape and repaint
After initial cleaning, remove paint using wet methods (water spray/mist), spot prime and top coat.

17. Window Treatment 2 (wrap exterior sill)
After initial cleaning, wrap exterior window sill in aluminum or vinyl by back-caulking and mechanically fastening the wrap. An approved alternative wrap technique is the use of a fiber glass and resin encapsulant.

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18. Window Treatment 3 (wrap ext. sill, plane surfaces, sash tracks)

After initial cleaning, wrap exterior window sill in aluminum or vinyl by back-caulking and mechanically fastening the aluminum wrap. An approved alternative wrap technique is the use of a fiber glass and resin encapsulant. Fix upper sash in place using blocks screwed into jamb under the upper sash, remove lower sash and block plane all friction surfaces . Install lower sash jamb liners with weather stripping edges. Reinstall lower sash and ensure that lower sash will stay in raised position when window is raised by repairing sash cords or installing sash springs, install new stop, prime and paint.

19. Window Treatment 4 (wrap ext. sill, sash tracks, new lwr sash)

After initial cleaning, wrap exterior window sill (area between lower sash and storm or screen) in aluminum or vinyl by back-caulking and mechanically fastening the aluminum wrap. An approved alternative wrap technique is the use of a fiber glass and resin encapsulant. Fix upper sash in place using blocks screwed into jamb under upper sash, remove inside stop and lower sash, install lower sash jamb liners with weather stripping edges, install new wood lower sash and ensure that lower sash will stay in raised position when window is raised by repairing sash cords or installing sash springs, prime and paint.

20. Window treatment 5 (new vinyl or wood double hung window)

After initial cleaning, measure window opening for new replacement window, ensure jamb is plumb, level, and square, remove inside stop, lower sash, parting stop, upper sash, and outside sash, install new replacement window per manufacturer's specifications, insulate spaces between old jamb and new window using spray foam insulation, install new stop, prime and paint.

21. Window Treatment 6 (ext. sill paint removal)

Using wet removal methods or non-methylene chloride chemical stripper, remove all paint to bare wood and repaint with non-lead based paint.

22. Window Treatment 7 (prep and paint int. sill)

After initial cleaning, remove paint using wet methods (water spray/mist) spot prime and top coat.

23. Replace Door-Hollow Core Interior

Install new wood hollow core door that is in good working condition, that is the proper size for the opening, and that is in sound condition (without warp twist, or bow)

24. Replace Entrance Door-Solid Core Door

Install new solid core entrance (exterior) door that is in good working condition, that is the proper size for the opening,and that is in sound condition (without warp, twist, or bow).

25. If you have any questions, please contact me at 286-3538 between the hours of 8:00 a.m. and 9:00 a.m., Monday thru Friday.

26. Repair Plumbing Leak/Problem

Repair plumbing leak/problem in accordance with Department of Building Inspection rules and regulations.

27. Repair Damaged Roof

28. Repair/Replace Damaged Ceiling

29. Repair Hole in Floor

30. Repair Gutter/Downspout

Baltimore Jobs In Energy Project

28 E. Ostend St. Suite 200 Baltimore, MD 21230
(301) 727-7837 Fax (301) 539-2087

Lead Paint Maintenance, a Holistic Approach

The problem of lead paint in residential buildings also creates an opportunity to rationalize residential building maintenance.

The most cost effective housing investment is maintenance. A sixty thousand dollar ($60,000.00) rehab could instead fund the maintenance of twenty to thirty maintenance projects. Houses in areas unattractive to renovation investment run the risk of abandonment.

An analysts of maintenance priorities finds weatherization, moisture control and lead paint abatement inextricably related. In brief, the major cause of childhood lead poisoning is dust from falling paint, the major cause of paint failure is moisture; excessive moisture has three (3) major sources: leaky roofs, failed plumbing and defective windows. Leaky roofs and defective plumbing are also the major cause of structural damage (termites also depend on moisture). Roof moisture also destroys the insulation value of ceiling insulation which tends to hold moisture and increase structural damage. Windows are not only a source for interior moisture, they also are the major cause for heat loss and lead paint dust. They tend to have the heaviest lead paint coatings. Because their opening and closing creates friction they generate more lead dust than most any other surface. So replacing windows cuts down on energy loss, moisture damage and lead paint poisoning; at the same time it lowers maintenance costs and appreciates the house's value.

It is vastly more expensive and less effective to relegate maintenance, weatherization and lead paint abatement to three crews. In some cases, for example replacing windows, it is not possible.

In most cases the crews who are closet to having the capacity to being effective in all three trades are weatherization crews. They are trained to do audits and prioritize measurers; are use to working in occupied dwellings; have expertise in window and door replacement and have most of the tools that a lead abatement contractor needs.

The most effective delivery system would be small community based companies sharing some services, capital equipment and expertise.

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WEATHERIZATION TRAINING
PROGRAMS - AN OPTIMAL FOUNDATION
FOR LEAD PAINT ABATEMENT

With a relatively small amount of training existing weatherization programs have the capacity to deliver high quality training. These programs are uniquely equipped to deliver lead paint maintenance/abatement training in the following four areas:

Residential Experience

Weatherization programs have a decade of experience in working in low and moderate homes which are often occupied during work. Even when the units are not occupied, sealing of furniture and appliance is frequently necessary. Weatherization crews have a history of working with low income families and property owners. These skills are crucial to lead paint abatement and take years of experience to develop.

Audit Skills

An energy audit and lead audit are similar in that there is an extremely complex set of options and priorities based on a complex set of priorities (budget among them). A skilled energy auditor has these skills.

The major cause of lead poisoning is lead dust due to paint failure. The major cause of paint failure is moisture problems. Energy auditors have a more comprehensive knowledge of moisture problems and solutions than any other craft. Weatherization trained auditions understand both matter infiltration and condensaiton.

The diagnostic equipment used by weatherization crews is far more complex than lead analysis equipment.

Implementation Skills and Equipment

The two areas of lead maintenance/abatement presenting the most difficulty are window and doors. Training a crew to rebuild window and doors would take months. Weatherization crews already possess most of the necessary carpentry skills saving a tremendous amount of training cost and time.

Weatherization crews already have most of the tools and equipment necessary for lead paint abatement such as; ladders, trucks, power trim tools, dry wall and general carpentry tools. the hepa vac is one of the only additional piece of equipment needed.

Working Relationships

Weatherization programs have a decade of knowledge of delivering maintenance services to the same communities and housing stock that will need lead paint abatement. They are not only experts in pre 1950 houses, they are experts in the unique housing in their area. This is crucial for lead paint maintenance/abatement crews.

Weatherization crews also have a long standing relationship with agencies that monitor, fund and regulate work on residential housing.

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BRAND NEW PROGRAM

LEAD PAINT ABATEMENT PROGRAM

GET THE LEAD OUT

HELPING LOW- AND MODERATE-INCOME FAMILIES REDUCE THE RISK OF LEAD PAINT POISONING IN THEIR HOMES

A SERVICE OF THE EXECUTIVE OFFICE OF COMMUNITIES AND DEVELOPMENT AND MASSACHUSETTS HOUSING FINANCE AGENCY

Over one million homes and apartments in the Commonwealth are contaminated with lead paint, according to the Massachusetts Department of Public Health, and children, particularly those under the age of six, who live in those housing units are in potential danger of becoming poisoned. The continued presence of lead paint in our homes has persisted as an urgent health concern for the Commonwealth for the last two decades and has triggered a large state-sponsored effort to do more to rid our homes of the toxin.

As part of this effort, the Massachusetts Housing Finance Agency (MHFA), in cooperation with the Executive Office of Communities and Development (EOCD) and local housing rehabilitation agencies statewide, is offering a new low-interest loan program to help low- and moderate-income homeowners reduce lead paint hazards in their residences. The loan program, called "Get The Lead Out," was developed in cooperation with the Weld/Cellucci Administration, the Massachusetts Legislature, the Massachusetts Bankers Association and many health and housing advocacy groups.

Funds Available

A total of $11 million in loans will be made available through the Get the Lead Out Program to benefit an estimated 1,000 households. Of that amount, $10 million has been raised by the MHFA through the sale of tax-exempt bonds to private investors. The interest rate on most of the $10 million in loans will be reduced from 8.5% to 5% with savings achieved through the Savings Bank Life Insurance (SBLI) legislation sponsored by state Rep. Thomas Finneran of Boston. The other $1 million in loans will be funded with SBLI funds and will be available, under special circumstances, at 0% interest on a deferred payment basis.

Financing Terms

The Get the Lead Out Program provides reduced rate loans of up to $15,000, although the average loan is likely to be between $5,000 and $10,000. The loans carry a minimum term of six months and a maximum term of 15 years. All of the loan funds must be used solely for the abatement of lead paint in 1-4 family, owner-occupied residences.

Financing is being offered at 8.5%, 5%, and 0%, depending upon income and a borrower's ability to support additional debt.

5% Loans The majority of loans under the Get the Lead Out Program will be made at the interest rate of 5% (APR 7.39%)*. That rate is achieved by using SBLI funds to further reduce MHFA's tax-exempt rate. At the end of the loan term, the borrower must continue to pay a monthly payment until the SBLI subsidy is repaid. Repayment of the subsidy will help ensure that affordable financing for lead paint abatement is available for other households in the future. (See Subsidy Repayment Schedule in box on page 2.)

To qualify for 5% financing, a borrower's Gross Annual Household Income must not exceed the amounts given below:

	ONE PERSON HOUSEHOLD	TWO OR MORE PERSON HOUSEHOLD
Boston Area	$38,000	$43,000
Lawrence-Haverhill Area	$38,000	$40,200
Lowell Area	$38,000	$42,400
Salem-Gloucester Area	$38,000	$43,700
Balance of State	$38,000	$39,600

Loan funds with a 5% interest rate will be targeted as follows:

- 50% of these funds will be reserved for households in which a lead-poisoned child is residing;
- 30% of these funds will be reserved for households who are under official order to delead, or who have children under six in residence, or who own and occupy a 2 – 4 family house in which children can be expected to live;
- and, 20% will be available generally to households that wish to abate the lead in their house.

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The following example illustrates how a borrower will repay a 5 % Get the Lead Out Program loan. Through the SBLI funds, a borrower's interest rate is reduced from 8.5% to 5% for the term of the loan. The borrower is required to repay these SBLI funds in equal monthly installments once the principal balance of the loan has been retired. The calculations presented below are based on a $15,000 loan with a term of 15 years.

SUBSIDY REPAYMENT SCHEDULE	
Monthly Principal/Interest Payment @ 8.5%	= $ 147.71
Monthly Principal/Interest Payment @ 5.0%	= $ 118.62
Monthly Interest Write-Down Subsidy	= $ 29.09
Total Interest Write-Down Subsidy ($29.09 x 12 Months x 15 Years)	= $5,236.20
Additional Term Needed to Repay Subsidy ($5,236.20 divided by $118.62)	= 44 months
Total Loan Term to Repay Principal Balance and Subsidy	= 18 years & 8 months

In this example, the borrower makes 180 monthly payments of $118.62, representing level payments for a $15,000 loan with an interest rate of 5% (APR 7.39)* and a term of 15 years. Beginning in year 16 and continuing for the next 44 months, the $5,236.20 that was needed to reduce the interest rate from 8.5% to 5% is repaid by the borrower in 44 equal payments of $118.62 per month.

8.5% Loans: Approximately 50 to 100 loans will be made at an interest rate of 8.5% (APR 9.19%)* to borrowers who have a lead poisoned child and/or are under official order to delead, and whose Gross Annual Household Incomes exceed MHFA limits but are within the U.S. Treasury Department's income limits (see below).

	ONE OR TWO PERSON HOUSEHOLD	THREE OR MORE PERSON HOUSEHOLD
Boston Area	$50,000	$57,000
Balance of State	$46,000	$52,000

On a $15,000 loan, at an interest rate of 8.5% (APR 9.19%)* and a term of 15 years, a borrower will make 180 monthly payments of $147.71.

0% (deferred payment) Loans: These 0% loans (APR .278%)* will be set-aside specifically for emergency situations involving households, who meet MHFA's income limits for 5% financing and have lead poisoned children, but are unable to support additional debt at this time. Credit and debt history will not adversely affect the borrower's ability to secure funds under this category and no repayment of the loan is required until the property is sold or refinanced. These loans will be funded with a special pool of SBLI funds and are expected to assist up to 100 families.

A borrower will make one payment of $15,000 on a $15,000 loan, at an interest rate of 0% (APR .278)*, if the property is sold or refinanced in 15 years.

***APR (Annual Percentage Rate)**

Lenders are required by law to provide consumers with information as to the total cost and effective interest rate, or Annual Percentage Rate (APR), associated with a loan. Under the MHFA's Get the Lead Out Program, the APR is determined by the loan contract interest rate, either 8.5%, 5%, or 0%, and the fee charged to the borrower by a local rehabilitation agency and if applicable, the contract interest rate subsidy. The APR will vary depending on the amount and term of the loan and the fee charged by the rehabilitation agency and if applicable, the amount of the contract interest rate subsidy. Generally, the APR will increase as the term of the loan decreases.

The local rehabilitation agency fee will be 4% of the amount of the loan. The maximum fee is $600 and the minimum $200. The fee is required to be included in the amount of the loan. In addition to the local rehabilitation agency fee, borrowers receiving a contract interest rate of 5% will also be required to repay the interest subsidy of 3½%. The subsidy amount is repayable at the end of the loan term in monthly payments equal to the monthly payments due on the loan, however, without interest. MHFA financing at a contract interest rate of 0% is repayable upon sale, refinancing or transfer of the property.

The APRs in the examples are based on a loan of $15,000, a loan term of 15 years (plus 44 months in the case of the 5% loan with the subsidy) and a housing rehabilitation fee of $600.

Steps Involved in Getting the Loan

Lead paint abatement loans are initiated statewide only through MHFA-designated, participating rehabilitation agencies who will help borrowers in virtually every step of the loan application and lead abatement process. This process is as follows:

1. Homeowners should first contact local rehabilitation agencies serving their areas (see page 4). These agencies will help homeowners determine if they are eligible for the program and, through a participating lender, will assist them in securing MHFA financing. These agencies also will provide lists of state-certified lead paint abatement inspectors and licensed contractors for homeowners' consideration.

2. Next, homeowners must hire a state-certified lead abatement inspector to examine the home to determine where lead paint exists and from which surfaces it must be removed. (Homeowners who have a lead paint inspection prior to applying for financing may be reimbursed for inspection costs from loan proceeds as long as lead exists and they are approved for financing.)

3. After an inspection, homeowners will employ a state-licensed contractor to abate the lead paint (borrowers may not do deleading work or pay themselves or family members residing in the home with funds received from their MHFA loan and they must comply with state regulations and vacate the premises until the work is completed);

4. Finally, homeowners will have their property reinspected by state-licensed inspectors, who must provide written "certificates of compliance," verifying that the required surfaces containing lead paint were treated or abated property and that their homes are safe for reoccupancy. In no instances, will the final disbursement of loan funds for lead abatement work be made before the certificate of compliance is issued indicating that the work has been done in full compliance with state lead law.

Please note: MHFA guidelines and programs are subject to change. This brochure and any accompanying insert(s) are intended to provide an overview of the program guidelines. Many of the program guidelines are required by federal law. The Agency understands that requirements are somewhat complicated, and encourages you to obtain complete data from participating rehabilitation agencies and lenders:

Loans for Rental Properties

The MHFA's Get the Lead Out Program is targeted solely to owner-occupied, 1–4 family homes, not investor-owned rental properties. However, the MHFA, with the EOCD, the Massachusetts Bankers Association and the Massachusetts Housing Partnership, is designing a program of lead paint loan guarantees for owners of larger rental properties and investor-owned units. This will be done with $1 million of the SBLI funds and is expected to leverage $10 to $20 million in conventional funds. The availability of this program will be announced later this year.

Costs to the Buyer

When applying for the Get the Lead Out Program, borrowers will be charged a fee of 4% of the loan amount by the local rehabilitation agency. The minimum fee is $200 and the maximum fee is $600. This fee can be included in the loan amount. Borrowers also should be prepared to pay title examination charges, recording and filing fees. Although these fees vary from lender to lender, they should not exceed $300.

Get the Lead Out Program Rehabilitation Agencies

Adams Town of Adams
Joan F. Haddad
(413) 743-7646

Amesbury* Town of Amesbury
Timothy H. Haskell
(508) 388-8110

Arlington Home Rehabilitation
Winifred Fitzgerald
(617) 646-1000

Attleboro* Community Development
William Spaner
(508) 226-5116

Beverly Community Development
Thomas Fleming
(508) 921-6032

Blackstone* Community Development
D. Marcinkowski
(508) 883-7895

Boston ESAC
Norma Moseley
(617) 524-4820

Neighborhood Housing Services
Eileen C. Marsan
(617) 720-2654

Public Facilities Department
Vicki Bernstein
(617) 635-0352

Bridgewater Planning and
Community Development
Richard Farris
(508) 697-7231

Brockton Self Help
Carol Remo/Jim Canavan
(508) 588-5440

Brookline Housing Rehabilitation
Office
Bruce Genest
(617) 730-2090

Cambridge Homeowner's
Rehabilitation
Jane Gronholm
(617) 868-4858

Just-A-Start
Beatrice Phear
(617) 494-0444

Chelsea Community Development
Steven M. Herzberg
(617) 889-0700

Fall River* Affordable Housing
Robert N. Landry
(508) 677-2220

S.E.R.* Jobs for Progress, Inc.
M. Paula Raposa
(508) 676-1916

Framingham Planning Department
Arthur T. Noonan
(508) 620-4852

Franklin Property Improvement
John A. Griswold
(508) 520-4929

Gardner Community Development
and Planning
Michael F. Ellis
(508) 630-4011

Gloucester Community Development
Alex L. Hillman
(508) 281-9782

Haverhill Community Development
Sharon Ruocco
(508) 374-2348

Holbrook Community Development
Robert A. Colburn
(617) 767-0618

Kingston* South Shore Housing
Susan Johnson
(617) 585-3885

Lawrence Community Development
Joseph Moffatt
(508) 794-5891

Lowell Community Development
John Meehan
(508) 970-4293

Lynn Community Development
Alden Drake
(617) 598-4000

Malden* Redevelopment Authority
Ronald Grasso
(617) 324-5720

Marlborough Community Res.
John Ghiloni
(508) 460-3715

Medford Community Development
David Hartwell
(617) 393-2480

Methuen Community Development
Joseph Cosgrove
(508) 794-3231

New Bedford* Housing and
Neighborhood Development
Antone G. Souza, Jr.
(508) 979-1500

Newburyport* Turning Point
Geraldine Dorr
(508) 462-8251

Newton Planning and Development
Olga Pitel
(617) 552-7140

North Adams Community
Development
Michael Nuvallie
(413) 663-6581

Northbridge* Community
Development
M. J. Adams
(508) 234-4756

Orange Community Development
Fran VanTreese
(508) 544-0219

Palmer Community Development
Lawrence B. Smith
(413) 283-9737

Peabody Community Development
and Planning
John Cella
(508) 532-3000

Plymouth* Redevelopment Authority
John Droege
(508) 830-4115

Quincy Housing Rehabilitation
Robert Card
(617) 376-1055

Revere Planning and
Community Development
Mark Signore
(617) 284-3600

Salem City of Salem
Margaret Dowd
(508) 745-9595

Salisbury Housing Authority
Scott Marcelais
(508) 462-8600

Somerville Community Development
John Woods
(617) 625-6600

Southbridge Community Development
Debbie U. Oppermann
(508) 764-5402

Springfield* Housing Assistance Plan
Thomas Kegelman
(413) 785-1251

Springfield Redevelopment Authority
Breda Garvey
(413) 787-6518

Stoneham* Community Development
Network
Grace M. McManus
(617) 438-1977

Taunton Planning and
Economic Development
Louis Martin
(508) 821-1030

Turners Falls* Franklin City
Regional
Donna M. Cote
(413) 863-9781

Ware* Community Development
Susan Rutherford
(413) 967-7136

Wareham* Community Development
Authority
C. Yankopoulos
(508) 291-3170

Warren Town of Warren
William Frangiamore
(413) 436-5701

Watertown Community Development
And Planning
Laura Wiener
(617) 972-6417

Weymouth Town of Weymouth
John Parnaby
(617) 335-2000

Winchendon* Rural Housing
Improvement, Inc.
M. Shirley Martin
(508) 297-1376

Winthrop Community Development
Kathleen Guillory
(617) 846-1852

Worcester Oak Hill
Community Development
Harriet S. Lebow
(508) 754-2858

*Rehabilitation Agencies that service more than one city or town

Regionals

Bristol County

Fall River Affordable Housing
(508) 677-2220
(Fall River, Swansea, Somerset, Westport)

S.E.R. Jobs for Progress, Inc.
(508) 676-1916
(Seekonk, Rochester, Freetown, Fairhaven, Rehoboth, Somerset)

Turning Point Inc.
(508) 462-8251

Plymouth/Bristol County

Plymouth Redevelopment Authority
(508) 747-1620 x344
(Plymouth, Carver, Kingston, Duxbury, Pembroke)

South Shore Housing Development Corp.
(617) 585-3885
(Berkeley, Brockton, Cohasset, Dighton, East Bridgewater, Easton, Fairhaven, Halifax, Hanson, Hull, Kingston, Middleboro, Norton, Norwell, Pembroke, Plympton, Raynham, Rockland, West Bridgewater, Whitman)

Hampshire County

Housing Allowance Project
(413) 785-1251
(Agawam, Amherst, Blandford, Chicopee, Easthampton, Goshen, Hadley, Holland, Huntington, Middlefield, Monson, Northampton, Russell, South Hadley, Southwick, Tolland, Westfield, Williamsburg, Springfield)

Franklin County

Franklin County Regional Housing Authority
(413) 863-9781
(Ashfield, Bernardston, Buckland, Charlemont, Colrain, Conway, Deerfield, Erving, Gill, Hawley, Heath, Leverett, Leyden, Monroe, Montague, New Salem, Northfield, Rowe, Shelburne, Shutesbury, Sunderland, Warwick, Wendell, Whately)

Middlesex/Worcester County

Rural Housing Improvement, Inc.
(508) 297-1376
(Ashburnham, Ashby, Athol, Auburn, Barre, Hardwick, Holden, Hubbardston, Leicester, Millbury, New Braintree, Northbridge, North Brookfield, Oakham, Oxford, Petersham, Phillipston, Princeton, Royalston, Rutland, Sutton, Templeton, West Brookfield, Westminster, Winchendon)

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LEAD PAINT POISONING AND THOSE AT RISK

Public health officials have identified lead as a major environmental hazard to children. Until the federal government outlawed lead-based paint for residential use in 1978, it was commonly found in the interiors and exteriors of homes on such surfaces as walls, windows, floors, ceilings, staircases and doors.

- Lead can turn up anywhere: in the air, in the soil, in our water and food. It remains in older homes throughout Massachusetts and often goes unnoticed until a child is found to have abnormally high levels of lead in the blood stream.
- Children do not need to eat paint chips to get lead poisoning. According to the Boston Childhood Lead Poisoning Prevention Program, most children are lead poisoned by putting their fingers or toys in their mouths, which is natural for young children, but becomes dangerous if there is lead dust or dirt on their fingers and toys.
- Lead paint, if ingested by a child in sufficient quantities, can cause reading disabilities, slowed motor development, and hearing and memory loss. Since there are no immediate symptoms connected with lead poisoning, health officials recommend that children who may have been exposed at some point to chipping, peeling, or crumbling lead paint, or lead dust, be screened for the illness. Parents can contact their local health care provider or local health department for information on screening.

THE MASSACHUSETTS LEAD LAW

Massachusetts enacted the nation's first lead law in 1971. The law requires that all residential property owners abate or remove the risk of possible lead poisoning in homes in which children, who are under the age of six, live or spend lengthy periods of time. This can be accomplished by replacing the lead paint surfaces or by other means including scraping, dipping or covering the affected areas.

Property owners are able to receive a state income tax credit, once their homes have been brought into compliance with the lead law. Currently, the Massachusetts Legislature is considering amendments to the state's lead law and, in view of today's rapidly changing technology, hopes to make the lead paint abatement process faster, easier and less expensive in the future.

ABATING LEAD PAINT

Because lead is not biodegradable (does not disappear with the passage of time), it must be removed physically. Do-it-yourselfers are warned by health officials not to take on lead paint removal jobs, themselves, no matter how easy a task it seems to be. In fact, it is illegal to attempt such an endeavor. Pregnant women, for example, who are renovating their homes to provide nurseries, should stay away from any lead paint contaminated surfaces. If they do not, they may subject themselves and their babies to lead paint poisoning. Lead paint abatement should be done only by state-licensed contractors.

IMPORTANT RESOURCES

If you would like to receive additional copies of this brochure explaining eligibility guidelines for the Get the Lead Out Program and a list of participating rehabilitation agencies, contact the MHFA's Office of Single Family Programs – (617) 451-2766. Leave your name and address on the answering machine and a brochure will be mailed out to you immediately.

If you wish to receive further information concerning lead paint poisoning and abatement, contact the following groups: Office of Environmental Affairs (to receive lists of licensed lead paint inspectors and contractors; information on licensing procedures to do lead abatement; and information for renters who want to know about their rights) – (617) 534-5966.

Massachusetts Department of Public Health, Childhood Lead Poisoning Prevention Program (regarding lead-poisoning screening services for children throughout the state)– (800) 532-9571

Massachusetts Department of Labor and Industries (regarding inspection and abatement procedures) – (617) 727-1933

If you need legal advice about a lead paint abatement issue call: Greater Boston Legal Services – (617) 357-5757, x3998 or Conservation Law Foundation – (617) 742-2540.

Groups That Participated with EOCD and MHFA in the Development of the Get the Lead Out Program

Conservation Law Foundation

Department of Public Health, Childhood Lead Poisoning Prevention Program

Ecumenical Social Action Committee

Eastern Savings Bank

Fleet Bank of Massachusetts

Franklin County Regional Housing Authority

Malden Redevelopment Authority

Massachusetts Association of Community Development Corporations

Massachusetts Bankers Association

The Massachusetts Legislature

Office of the Attorney General, Public Protection Division

Office of Environmental Affairs, Boston Childhood Lead Poisoning Prevention Program

Pioneer Financial Bank

EQUAL HOUSING
OPPORTUNITY

3/92

The Commonwealth of Massachusetts
Department of Labor and Industries
Division of Industrial Safety
32 Franklin St., 4th Floor, Worcester, MA 01608

INFORMATIONAL BULLETIN

CHECKLIST FOR SELECTING A DELEADER-CONTRACTOR

Once a determination is made to delead your property, how do you determine whether a deleader-contractor is qualified to safely perform the task? While there are many well-qualified, experienced, and conscientious contractors performing this important and potentially hazardous work, there are, unfortunately, contractors who are neither experienced nor capable of safely removing lead from buildings.

At a minimum, prospective contractors must be licensed by the Department of Labor and Industries. This license ensures that the contractor has attended an approved deleading training course and is routinely monitored by Department of Labor and Industries inspectors on safe work practices. A license alone does not ensure quality work, however. The following checklist is offered as a guideline to consider when selecting a contractor:

1. Contractor should submit a list of references of individuals who can attest to the quality of the contractor's work.

2. Contractor should submit evidence that the job supervisor and workers have attended a deleading training course, as required by Department of Labor and Industries regulations 454 CMR 22.00.

3. Contractor should submit a list of prior deleading contracts, including the names, addresses, and telephone numbers of building owners for whom the projects were performed.

4. Contractor should provide a description of any deleading projects which have been prematurely terminated, including the circumstances surrounding termination.

5. Contractor should provide a list of any contractual penalties which the contractor has paid for breach of contract, such as overruns of completion time or liquidated damages.

6. Contractor should identify any citations levied against him or the property owners by whom he was contracted, for violations related to his deleading work, including the name or location of the project, the date(s), and how the allegations were resolved.

7. Contractor should submit a description of all legal proceedings, lawsuits, or claims which have been filed or levied against the contractor or any of the contractor's past or present employees for deleading related activities.

This checklist should only be used as a guideline to help in the selection of a licensed qualified contractor and by no means should be used as the only selection process of a deleader-contractor.

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TITLE: Alternative Housing Program for Lead Poisoned Children

Who uses this material?

Lead Program staff work with lead nursing coordinators to secure alternative housing.

What is the purpose of the material?

To summarize the alternative housing options we have identified.

How is the material used in the program operation?

As a resource to program staff.

How and why was the material developed?

Developed by nursing coordinator to identify alternative housing options and procedure for program staff.

Based on evaluations are there any plans for modification of the materials?

We are continuously looking for additonal housing options - this summary needs updating - written almost a year ago.

Recommendations for modifying or improving the material:

No

MILWAUKEE HEALTH DEPARTMENT
CHILDHOOD LEAD POISONING PREVENTION PROGRAM

ALTERNATIVE HOUSING PROGRAM FOR LEAD POISONED CHILDREN

In order to assure safe housing for children with lead poisoning and their families, the Milwaukee Health Department has sought to identify sources of alternative housing to be utilized when children cannot remain in their own homes, and they are unable to stay with relatives or friends, even temporarily.

In July, 1992, the final details of this alternative housing program were completed. There are two facets of this program, permanent relocation and temporary relocation. The first, permanent relocation, is for children with lead poisoning that, for various reasons, need permanent relocation due to unabated lead hazards. This is a program that is administered by the American Red Cross. The family is provided with a voucher to pay for a portion, or all, of the first month's rent and security deposit. Referral to this program is based on the case itself, the status of the abatement process, and compliance with the city ordinance governing abatement. For these reasons it is crucial that the referral be made by the Lead Nursing Coordinator of the Childhood Lead Poisoning Prevention Program (C.L.P.P.P.) at the Milwaukee Health Department.

Temporary relocation is the second part of this program. This is a program that we have set up with the various homeless shelters in Milwaukee and with the Ronald McDonald House, a temporary shelter for families of ill children. This program is available for children and their families who need alternative housing for a short period of time. These are families whose houses are in the process of being abated who need to relocate during this process; a child being discharged from the hospital after chelation whose home is being abated but the work will not be complete prior to his or her discharge; or a child receiving chelation treatment on an outpatient basis whose home is also being abated. The referral to this program may be initiated by the social worker or discharge planner involved with the case at Children's Hospital of Wisconsin, or the Lead Program Nursing Coordinator at the Milwaukee Health Department.

Since July, 1992, the Milwaukee Health Department has only needed to assist two families in permanent relocation. One family was referred to the American Red Cross and is relocated in lead-safe housing. The second family is temporarily staying with friends and is in the process of locating a suitable dwelling so that we can refer them to the American Red Cross.

The Lead Nursing Coordinators have assisted one family in obtaining temporary shelter while lead abatement was being completed.

Lead in American Schools:

What School Districts Should and Should Not Do

INSTITUTE
ENVIRONMENTAL
ASSESSMENT
433 Jackson Street • Anoka, MN 55303 • 800-233-9513 • 612-323-9770

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LEAD IN AMERICAN SCHOOLS: WHAT SCHOOL DISTRICTS SHOULD AND SHOULD NOT DO

INTRODUCTION

The new federal lead thresholds and Title X will require many institutions to fundamentally change. While much of the public health focus in responding to lead poisoning is properly directed toward preschool children in homes and daycare centers, younger, school-age children are also at great risk. Contamination of large groups of children in schools through water, dust, or lead-bearing art products is quite possible if the school district does not move to prevent exposures. By law, as of October 1, 1993, all school renovation, remodeling and maintenance activities must follow the new OSHA lead guidelines.

Parents and educators will soon be told, correctly, that improper administration of property (home or school) as it relates to lead can "make children less smart." Under Hazard Communication Act provisions, people who work in and around school buildings and school property will soon be informed that even minimal exposures to lead represent a health risk. Similar to other laws affecting schools--civil rights, ADA, asbestos etc.--lead rules under Title X will definitely impact the professional responsibilities of school administrators in America. The new lead law is more than a public health warning; it represents the fulfillment of a health-driven federal mandate.

How wisely schools respond will be the real test of whether or not environmental regulators and school administrators have "come of age" in terms of their ability to work together in the public interest.

Schools will simply have to do some things differently. If wisely managed, they won't turn themselves inside out procedurally and financially, terrify their building occupants or waste resources on needless engineering controls or personal protection measures. Instead, they will proceed with well thought out lead poison prevention programming that will play an important part in protecting children and workers.

I. SUMMARY

Control of lead exposure as it affects school policy is real, both in terms of potential human risk and the legitimate regulation to be imposed upon districts by state and federal law. It is probably most likely to have an impact upon school management--as did asbestos--in terms of the potential to generate fear and confusion among staff and students, and parents or guardians.

The following is a description of what we believe are the most important rules for school districts in addressing Federal Title X and its manifestations:

A. School Districts Should Not:

1. Conduct Abatement/Removal

Districts should resist being pushed into projects that are simply for the purpose of removing lead-bearing building materials. This could exacerbate risk and, at this point, does not necessarily have value in terms of public health.

2. Accept Gifts or Change Usage of Property Without Considering Lead Laws

Districts should not accept buildings as gifts, purchase buildings or make student relocation decisions without taking into consideration the age of the building, the average age of the students to be housed in the building and the potential risk of lead contamination.

3. Conduct Formal Building Inspections

Districts should not begin formal lead inspections at this time since federal standards for inspections are not yet finalized and there are few qualified inspectors. However, lead controls for workers **are currently required** under OSHA. Poison control and prevention measures to protect children are suggested, but neither poison prevention nor worker safety require building inspections for lead.

B. School Districts Should:

1. Conduct Dust Sampling and Room Evaluation (Pre-K thru 2nd Grade Rooms)

Districts should sample the dust in areas accessed by young children, especially in pre-1978 buildings. The district must be assured that lead is not present in the dust matrix to which children are likely to be exposed. A study of elementary schools in Maryland found 15% with a lead content in dust exceeding HUD lead thresholds.

2. Share Lead Information with Employees Under HazCom (Employee Right to Know) and OSHA Worker Exposure Rules.

Unless the state in which the district is located **has not** adopted Employee Right to Know laws (Hazard Communication Act), data sheets and basic information regarding lead exposures must be made available to those employees in school districts who work in areas typically involving sources of lead exposures (fine arts, laboratory sciences areas, certain property maintenance operations). Under the new federal thresholds, routine exposure to lead for working Americans triggers a need to share information regarding risk.

3. Remove or Monitor Sources of Lead Exposures in Schools

The products and processes in school buildings that may themselves create lead exposures have generally been identified. Schools should remove those compounds from the schools, use non-lead substitutes, or make certain proper personal protection and engineering controls accompany their use.

4. Gain the Ability to Oversee Lead Inspections, if Necessary

The district needs the **capacity** to oversee a competent lead inspection, probably using XRF (portable x-ray) technology. If children have been found to have high blood lead counts and the school believes the building may be a source of contamination from renovation or remodeling, or if there is serious concern on the part of a parent or employee, the ability to inspect--knowing what to look for, what laboratory systems to use etc.--is important as a health crisis response option.

5. Become Knowledgeable About Blood Lead Counts

The district needs to understand blood lead levels. While in our view the typical school district should never be involved in actual drawing of blood (we even seriously question use of a school as a vaccination site), the blood lead counts will present a clear physical indication of whether or not there have been improper exposures. At present, a substantial minority of children, i.e. between 5-17%, are found to have elevated blood lead levels above the new risk threshold of the Centers for Disease Control. An even greater percentage of children cross the newer thresholds suggested by the National Academy of Sciences. A school district needs to understand what high blood lead levels mean or do not mean in terms of appropriate response for protecting children.

6. Incorporate Lead Safeguards in Project Specifications

For any renovation/remodeling project subsequent to October 1993, specifications should include safeguards to prevent lead exposures and to document that the district has performed construction in patterns and with controls that will protect workers and especially those who reoccupy the building. This does not relate to lead abatement or removal; this relates to any typical work done in school buildings where a surface containing lead-bearing paint is broken.

7. Develop a District Lead Policy

A clear school board policy dealing with lead poison prevention in total is suggested, to give school administrators control of the issue and demonstrate to parents and employees that the district has moved to safeguard occupants. It should also confer proper authority upon those in the district who will have the responsibility to deal with lead issues.

8. Review Water Testing Methods

Rules, protocol and standardized testing regarding lead in water have been in place for some years in all states. Many states are now revising their rules to be more senstive to Title X and the new lead risk thresholds. The pattern used for testing water should be reviewed to make certain that the district can prove that systems which are sources of drinking water, such as food preparation areas or drinking fountains, are not sources of lead contamination. Maintenance of records on water testing is especially important for the district.

9. Institute a Lead Poison Prevention Curriculum and Provide Outreach

The most dangerous situations regarding lead involve younger children. Formalizing lesson plans that explain to young children the risks from putting things in their mouths (pica) or issues of general hygiene can be extremely valuable. Older students can benefit from learning how to act responsibly with their younger siblings. High school students, especially pregnant students, need to learn about public health procedures that will protect their children. This vital public health outreach will demonstrate the district's commitment regarding lead policy and create a healthier community through promoting the understanding that lead poison prevention goes beyond school building maintenance.

10. Upgrade the Cleaning Regimen

The major route of damaging lead exposures will be from ingestion by students or inhalation by workers of dust produced by degrading painted surfaces. While the response to asbestos focused on airborne exposures, the lead response will focus on dust and debris, thus improved hygiene procedures along with product monitoring are recommended. An upgraded cleaning regimen in school buildings, particularly in carpeted areas, is a major step in preventing potential exposures. Use of appropriate cleaning compounds will generally be more effective in safeguarding building occupants than typical removal. "Abatement" of lead in schools should be closely identified with upgraded cleaning procedures and dust suppression and control.

II. Risk and Regulation

A. Risk

Responsible environmental regulation is based upon perceived risk. When there is a new finding of perceived risk, federal, state and local units of government attempt, in good faith, to move to eliminate the risk. Depending upon how complex the issue is, there are often periods of confusion when the regulatory system seems unsteady. This is not reassuring to those who manage property. In the case of asbestos, there had been regulations for years, both employee safety regulations under OSHA, which were rarely enforced, and EPA regulations, which were periodically altered and communicated to school districts (school administrators of the late 1970s and early 80s remember receiving a different EPA asbestos manual each year for five consecutive years). These manuals were rarely read and the guidelines rarely followed; enforcement was sporadic or negligible. What changed with asbestos in the late 1980s was the passage of the federal asbestos act and, for the first time, development of an enforcement structure and a requirement that parents and employees be told if there was a potential "carcinogen" in their children's school buildings.

It is important not to confuse lead with asbestos in terms of the recommended response, but the eventual enforcement of regulations is real, based on Federal Title X, existing OSHA law and a mandate for federally-ordered enforcement.

The lead law and its federal enforcement structure are driven by the clear public health realization that even minimal levels of lead exposures to children and somewhat more extensive exposures to adults really do create diagnosable health problems. The general risk from lead has been understood for literally hundreds of years; the profound harm to children from low levels of exposure is recent, definite and without question.

There is a nonpartisan commitment among American policymakers to deal with lead and risk to children. Dr. Louis Sullivan, Secretary of Health and Human Services in the Bush Administration, called lead exposure the most serious environmental health threat to American children, and enforcement of the act will be carried out with vigor by the Clinton Administration, probably using the states as key enforcement arms.

Today, between 5-17% of children in the United States have blood lead levels which theoretically are causing lower IQs and, once discovered by parents, won't be tolerated. It is the concern of students, parents and employees, combined with empowering regulation, that will drive schools to respond, and their understanding of and commitment to the issue which will permit them to respond effectively.

B. Regulation

We will comment on the current status of regulation and law, moving from the least significant in terms of health risk and school responsibility to what in our view are the most significant factors in terms of responsibilities of school administrators.

1. Soil

Regulations regarding soil vary by state. The theory here is that if there is lead in the soil, children are likely to ingest or inhale it as part of outdoor play. This is probably not a major source of exposure except in unique areas--underneath bridges or water towers that have been scraped; sites of former industrial heavy metal activities; and possibly playgrounds near freeways where decades of lead-bearing vehicle exhaust fumes have created lead deposits. Where there is grass, there is less concern because plant life absorbs and dilutes lead burden in soil. Typically, the thresholds which indicate that soil needs remediation are between 100 and 1,000 parts per million. Again, the regulation and threshold vary by state. The testing of a small sample of playground soil, perhaps at the foot of a slide, is generally straightforward and inexpensive.

2. Water

Water is a major source of lead exposure but the pattern for and history of testing water systems has been institutionalized for years. The threshold is generally 15 ug per liter of water. This standard, established by EPA 40 CFR, Part 141.80, was adopted for virtually all water systems in the United States, although several states have amended the thresholds and established different systems for response. Many are now being amended based upon the new concerns regarding risk and the new blood lead thresholds.

The water in drinking fountains and in food service areas should be tested by an accredited laboratory and records of the tests and protocol for response carefully archived. Above all, after any remediation or as part of any flushing protocol, retesting should be done to assure that the system is working.

3. Air

While air was a major source of contamination with asbestos, it probably will not be for lead, except among direct-contact workers. While asbestos particles can float for days because of their weight and shape, particles of lead, with their high specific gravity and non-aerodynamic shape, will rapidly drop out of the ambient air to become a persistent, hard to remove component of the dust matrix.

The ambient air standard for lead, found in EPA 40CFR 50.12, is extremely high and is unlikely to be encountered in other than work sites. Testing to see if there are lead problems in the ambient air of a school building does not make sense unless something has occurred, i.e. use of lead-bearing products in a kiln, work engendering metal fumes or a high-abrasion construction activity.

There is concern for workers engaged in hands-on construction. Under OSHA 29CFR 1926.62, a threshold is established for those working near metal fumes or sawing/scraping lead-bearing material where 30 micrograms per cubic meter become airborne. Essentially, the district or contractor must prove that this level was **not** reached if a lead paint-coated surface is broken. Certain engineering controls and personal protection may be required if this threshold is reached.

OSHA 29CFR 1910.1025/29CFR 1926.62 set a standard of 50 micrograms per cubic meter PEL (permissible exposure limit), above which workers **must** use personal protection, i.e. a respirator, and other, more stringent controls.

The Institute recently tested a small sampling of individuals working on renovation of two buildings within a school district and found that they had blood lead levels indicating high exposure--an average of 25 ug/deciliter. These were construction workers who were removing walls, scraping lockers and performing general renovation/ remodeling. The concern for workers regarding air contamination is real, and the personal protection air test on site is the standard which must be used.

4. Debris Disposal

There is a process defined in EPA 40CFR 261 which states that if debris goes through a Toxicity Characteristic Leachate Procedure (TCLP), where water is essentially poured through the debris and the test fails, i.e. lead leaches out of the debris, the debris must be maintained in a certain type of landfill, usually a Class C landfill. This will influence how districts handle debris from renovation and remodeling. Essentially, the dust from construction projects should be separated from rougher debris, bagged and disposed of separately. There are efforts at the national level to bring consistency to lead disposal requirements; different states may handle disposal in different ways.

5. Surfaces

Regarding painted surfaces, present Consumer Product Safety Commission (CPSC) guidelines indicate that paint may not contain lead in excess of 0.06% by weight. Based on the specific gravity of lead vs. the specific gravity of paint, this represents minimal concern, but one should be aware that lead may still be bound into paint, especially as a pigment. There should be no concern regarding lead in new paint unless leaded paint is specified for purchase. Out of nearly 400 paint samples tested by CPSC, only one brand and pigment was above the threshold by a small margin.

Since the most profound effects from exposure relate to young children and such exposure usually comes from the dust matrix on surfaces, these standards are extremely important. More detailed guidelines will be evolving through the EPA under Title X but, at present, there are only the HUD interim guidelines for dust. There is a presumed dangerous situation if one finds 200 milligrams/sq. ft. on floor surfaces. On windowsills reachable by children, the threshold is 500 milligrams/sq.ft. On areas outside the child's reach, the threshold is 800 milligrams/sq.ft. Windowsills nearly always have higher levels of lead present because lead is typically found in the paint used on outdoor surfaces of windows, and the impact of opening and closing the window tends to abrade the paint and cause lead-containing dust. Some states are enacting more stringent standards for windowsills.

In our view, if any detectable lead is found in the dust matrix in a school classroom, the room should be cleaned with a chelating agent and the source of exposure identified and arrested to the degree possible. We believe that this upgraded cleaning regimen should be the foundation of the district's lead management plan.

6. Blood

In our recent experience with school districts, the concerns of parents and employees are greatest when high blood lead counts are discovered--undeniable proof that a child has had exposure to lead that can be expected to degrade their intelligence. The current threshold under OSHA for workers (OSHA 29CFR 1910.1025 and OSHA 29CFR 1926.62) is 40 micrograms per deciliter. The exposure threshold for children is 10 micrograms per deciliter, with strong pressure from the medical community to lower that threshold still further. It must be emphasized that even tiny doses of lead near children can create elevated counts.

Blood lead levels will serve as a clear indicator of exposure; understanding blood counts will be important in establishing safe work practices and responsible property management.

III. Responses Schools Should Avoid Regarding Lead

A. Do not Undertake Wholesale Removal

Regarding asbestos, the first tendency for many school districts was to create "asbestos-free" buildings. This was understandable. Parents were afraid to have their children housed in buildings containing a known carcinogen and employees

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were worried about working in such buildings. By law, districts had to annually tell everyone that the building contained a potential cancer causing compound. The results were historic, both in terms of unnecessary abatement/removel and unnecessary human exposure due to poorly executed abatement methods.

With lead, the situation could be much the same. One state health department has been willing to go on record as stating that 25% of the high blood lead levels in children are the direct result of improper abatement of lead, i.e. people scraping lead off surfaces without proper engineering controls. Most lead abatement firms were once involved in asbestos abatement and removal and there is a tendency for them to treat lead like asbestos--even though the two compounds are extremely different--focusing on ambient air rather than debris and cleanup.

It is too early to undertake removal unless it is generated by special concerns, then on a limited, carefully monitored basis. A pipe covered with lead-bearing, peeling paint would be a prime and proper candidate for removal and repainting (encapsulating) by workers with proper protection and commonsense hygiene controls. Wholesale removal merely because of the presence of lead in a painted surface may never make sense and certainly does not at this point in time. The lead removal industry is still generally untried and untrained. DO NOT UNDERTAKE REMOVAL UNLESS THERE IS A SPECIAL SITUATION OR CONCERN, and then proceed with caution.

B. Do not Accept or Purchase Property Without a Proper Lead Assessment

Some of the more sophisticated private property managers have been getting into the business of selling or even giving away property, sometimes to schools, that contains lead-bearing materials or where lead debris was created as part of industrial processes. This happened, too, with buildings containing polychlorinated biphenyls or asbestos. By 1996, under Title X, no piece of property in America can change hands without a proper lead assessment and/or a stringent federal lead warning. This will devalue much property, including homes, schools and factories built before 1978 that are likely to have lead-bearing paint, and especially those constructed before 1960. Assessing the lead situation in buildings will become important in purchasing, selling or dealing with properties in other ways.

Similarly, decisions regarding relocation of students in various buildings should take into consideration some sort of lead assessment process. Laws proposed in Congress requiring assessment of schools focus only on elementary schools; putting elementary students in an older building likely to have lead-bearing components generally should be avoided. Understanding potential lead exposures will be important in terms of how and where you locate students in buildings and how you assess your portfolio of property. The key is making certain that administrators understand how to work with the issue.

C. Postpone Formal Lead Inspections

Steps toward lead poison prevention are important, but the Institute advises against undertaking formal, detailed lead inspections of property at this point. This is an expensive undertaking and may have to be completed under regulation at some time in the future. The use of XRF technologies may be required and the costs could be high. Districts need to know how to perform an inspection in case there is a problem such as a cluster of high blood lead counts or parents' concerns, or how to

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conduct an assessment of a specific area if a painted surface is to be disturbed, but formal inspections would be premature because of still evolving federal regulations.

The Institute has performed such inspections in situations where parents or local public health officials are worried about high blood levels in children. In those cases, it is worth a few thousand dollars for administrators to determine if the building could be contributing to the endangerment of a specific set of students. It should be noted that such inspections may have to be partially or completely redone when new federal guidelines are in place.

IV. Procedures Schools Should Undertake in Responding to Lead

A. Sample the Dust

The district should use wipe sampling techniques to test the floors, windowsills and other surface areas in PreKindergarten, Kindergarten, First and Second Grade classrooms, and should consider such sampling in other areas where hand-to-mouth (pica) activity is present, i.e. developmental disabilities, food preparation areas etc. The sampling process can easily be completed by district staff and is inexpensive.

In some districts, the Institute has been asked to conduct dust sampling in elementary classrooms in conjunction with Third-Year asbestos (AHERA) reinspections. Dust sampling quickly indicates whether or not the area is a source of what has been viewed as the major route of lead exposure for younger children. If there is no lead in the dust, the likelihood of exposures in the schools is dramatically diminished, no matter what is on the walls in terms of paint. If lead counts are high, the response is usually straightforward: a thorough cleaning of surfaces with trisodium phosphate (Spic & Span) or other chelating compounds, an upgrading of general hygiene measures in the building and, where necessary, encapsulating and isolating lead bearing painted surfaces. Removal may be necessary after a thoughtful, unbiased assessment.

B. Provide Lead Information and Warnings to Employees

Schools in most states have a mandate under the Hazard Communication Standard, i.e. Employee Right to Know Law, to provide warnings to employees regarding products or situations in the workplace which may be harmful. The safety data sheet for lead as a generic compound is attached to this document and should be accessible to those employees in areas typically involving sources of direct exposures to lead--maintenance, fine arts, some lab sciences and industrial arts. Because of the newly understood risks from lead and the importance of general hygiene as a preventive measure, there is a necessity to inform those who may come into contact with lead of the risks. Basic training and communications to staff regarding risks from heavy metals are necessary and almost certainly required by statute in your area.

C. Determine Sources of Lead Exposures thru Review of Products and Processes

Products that are lead bearing, particularly in elementary art, need to be removed from use or used only with the proper personal protection or controls. Metalworking, soldering or welding with exotic metals, jewelrymaking and some

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activities relative to kiln use, printing or photography should be assessed to determine doses and potential routes of exposure.

The need for these precautions helps to emphasize the importance of a districtwide policy regarding lead. The person in charge of lead risk prevention in the district must have the authority to identify and at least potentially remove products that are being used in any portion of the school district. Lead control within a district must logically move beyond property maintenance and construction standards toward a public health-based decisionmaking process.

The Institute has identified areas where lead-bearing products may potentially be found in schools. Now that we understand the risks to children from lead exposures, the district must be involved in controlling exposures, at least through warnings, just as asbestos manufacturing companies must now include health warnings in the production and distribution of asbestos. The district must not directly poison students.

Rules regarding purchase and use of products must be institutionalized throughout the district. It is not an expensive process but it does require administrative knowledge and authority.

D. Gain an Ability to Inspect and Assess for Lead

The district needs the competency to contract for or coordinate internally a formal, detailed lead inspection if a problem should arise or if there is some concern or suspicion on the part of parents or employees that there may be exposure and risk. The only protocol for inspection at this point has been developed through HUD and, unfortunately, information about how to handle lead in a housing situation does not often translate well into how to most efficiently handle lead in a school building. Typically, the building lead inspection involves the use of an XRF (portable x-ray machine). As with asbestos, the use of a lead abatement/removal contractor to do a building assessment is generally unwise; there is an inherent tendency for overresponse. The assessment should be conducted by individuals financially detached from the abatement industry who will review the building from a public health perspective. Since, at this point, there are no firm and clear regulations regarding building status, it is open to subjective interpretation.

E. Understanding Blood Lead Levels

Discovery of high blood lead counts which cross the new federal thresholds will understandably trigger serious and intense parental concern if the building is thought to be contributing to the poisoning. A knowledge of what blood readings mean can help a district defend its governance of the property. For instance, certain types of blood tests have an extremely high level of false positives, i.e. it will look as though someone has been harmed by exposures, yet when better testing is conducted, it will show that that is not the case. Understanding the different blood analysis protocols used, what the different blood lead thresholds mean, and identifying and interpreting that into the potential liability of the building will become important for building administrators regarding workers and students.. It is also important to understand that, unlike asbestos, alleged lead exposures can be medically measured; this has worked to the advantage of property managers. Blood assessment is now the standard that must be used under the OSHA lead standard for all potentially exposed workers.

F. Lead Safeguards in Renovation/Remodeling Specifications and Contractor Conduct

The most obvious and immediate change for the district regarding lead will be in its handling of renovation and remodeling projects. Such projects and the resultant debris are a major cause of exposures for children in the United States, whether in the home, daycare center or school, or carried home on the clothes of working parents.

The following are lead-oriented safeguards we have developed and suggested for incorporation in renovation/remodeling project specifications for school districts. Recommendations and standard operating procedures may evolve but we believe the following make sense at this point, given a liberal reading of Title X (29CFR 1926.62), and each can be implemented without great expense. Some of these should be folded into the project specifications and others should be carried out separately from the renovation or remodeling contractor.

1. Background Testing

Prior to the renovation/remodeling, the building owner should take a sample of paint from surfaces to be broken into, abraded or otherwise impacted. The sample should be tested by a qualified laboratory using atomic absorption (AA) as the analytical method. An alternate would be to use the XRF detection method, although our sense is that, at this point, most individuals using the XRF method do not have the hands-on experience necessary to gain an accurate reading, nor is the method inherently accurate. Recently, Consumer Products Safety Commission and Massachusetts Institute of Technology researchers have seriously questioned the use of XRF alone in property assessment as a guide for engineering controls. An alternate method would be to use chemical testing with some selective AA validation of XRF readings. Atomic absorption is the premier testing mechanism but the costs can be prohibitive if used extensively; AA can properly be complemented by chemical and XRF assessments.

Remember, at this point there are no certified laboratories for anything other than water analysis for lead. You must use a reliable, trusted laboratory that has no inherent financial investment in finding or not finding lead burden in paint, air, soil or dust. Remember, XRF assessment can be subjective.

We also believe wipe sampling/testing prior to construction, renovation or remodeling is wise. You essentially use a kit to sample the existing dust matrix for lead burden.

2. Communication to Contractor Regarding Lead

It is important to communicate, in writing, to the contractor that there is lead on surfaces. Without this formal communication, or a record of it, the warning to the contractor's employees or subcontractors will fall to the district and consequent harm in terms of worker exposures or exposures to the worker's family, could rest with the district. If the construction area appears to require lead monitoring, the district should consider contacting a third party for performing or monitoring the testing.

3. Control of a Regulated Area

Within the specification, there should be guidelines to control the area, to separate contact with debris from people in the area. This may involve a higher standard of isolation, using polyethylene to seal off corridors, warning signs and rules regarding access to the construction area. These controls can be designed and submitted by the contractor or included within the specification guidelines. Use of negative air should be considered but may not be required.

4. Covering the Carpeting

One possible route of lead exposure may be through lead burden in debris which is nesting in the carpeting. Directing that carpeting in the construction area be covered with two layers of polyethylene is inexpensive and good policy. If possible, carpeting should be removed or wet vacuumed with a diluted chelating agent as part of the renovation procedure. There is an unsteady pattern of testing carpeting for lead burden. Yet, for children, this may be the most salient path of exposure.

5. Locking Out Air Handling Systems

While lead settles out of the ambient air rapidly, any dust or debris that might be pumped throughout the building could result in extensive exposures and create a need for major cleaning. Simply shutting down the air handling system is often not enough; construction workers who are working overtime in dead-air conditions, historically have turned on air handling systems because of heat, cold or simply a desire for fresh air. Physically locking out the air handling system during renovation or remodeling should be part of the specification or actually performed by the building owner. This can easily complement the OSHA-mandated plan for lockout/tagout, as well as being of immense value for general hygiene purposes.

6. Control of Debris

Rules regarding how the debris is controlled should be incorporated in the project specification. This may include a request that loose, dust-type debris be segregated from rough debris at the end of the working day, bagged and placed in a locked dumpster. Different states may have differing regulations in this matter. The work site should not be allowed to have inches of dust and debris accumulating as cleaning will be difficult and the potential for contamination will be greater. The specification should direct that the area be wet-mopped periodically throughout the project. Though sewering of the soiled water should not represent a risk, we suggest that the district contact a local waste water authority to verify the disposal.

7. Implementation of Cleaning Rules

Rules requiring basic mopping of the area, precluding the use of blowers, and guidelines for basic construction hygiene should be enumerated as part of the specification. Under some conditions, HEPA (High Efficiency

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Particulate Air) cleaning should be considered, but it will not be as standardized as for asbestos.

8. Entry/Exit

Rules should be established by the building owner, or the contractor should be directed to establish rules, that will prohibit the tracking of debris outside the construction area, especially through occupied areas of the building This should probably be enforced through physical barriers in addition to rules. Rules should be implemented for how debris is hauled out of the building, segregated and stored so that it is separated from children and other occupants and cannot reasonably be expected to contaminate the building or neighborhood.

9. Disposal

Under TCLP guidelines, it may be necessary for portions of the debris to go to a controlled landfill. This makes it extremely cost effective to separate the coarse from the dust-type debris. Under no circumstances should lead-bearing debris be incinerated.

We have confronted recent situations where school administrators have been persuaded to treat all debris as potentially hazardous, i.e. lead bearing, to avoid liability problems. We consider this unnecessary. A reasonable segregation of the dust from the coarse debris should eliminate the expense of using a Class C landfill for all the material. Given the governance of existing landfills, assuming they're not near aquifers, folding lead back into soil should not represent a meaningful risk in terms of environmental policy or public health. While different state regulations may be forthcoming on this matter, for now, the bagged dust containing heavy amounts of lead belongs in a controlled landfill, but rough debris does not.

10. Post-Project Procedures - Cleaning/Clearance Testing

The most important procedure in renovation/remodeling construction is a background cleaning/testing before children reoccupy the area. While particularly true around younger children, this should happen with all renovation and remodeling. The contractor should be required to clean, generally using trisodium phosphate or other chemicals with a chelating action, and HEPA cleaning should be considered or required. Most typical cleaning procedures will not effectively pull lead out of the dust matrix; chelating agents will make a substantial difference. The most common of these cleaners is Spic & Span, although there are several new compounds on the market, and straight trisodium phosphate can also be purchased.

Following the cleaning, the district itself--not the contractor--should use a wipe sample testing procedure to make certain that lead debris is not resting on horizontal surfaces at a level which may potentially cause contamination of children. A post-construction, dust-controlling cleaning should be required and the area retested.

All of the above should be carefully recorded and archived with the construction documents. If children are identified with high blood lead counts under the new CDC guidelines, it will be important to prove that the school buildings and rooms the children occupied were managed to appropriate hygienic standards during renovation/remodeling.

G. School Policy

Attached is a one-page description of what we view as a responsible outline for a school board lead policy. This has been created by the Institute with input from several state school board associations, but it has not been formally adopted or supported by the National School Boards Association. We have recommended it to a number of individual school districts and state school boards associations, where it was well received. Every district handles policy development in different ways, but to us, this policy provides the proper perspective and will help to inspire support for the administrators charged with managing the district's lead policy.

H. Water Testing

Laws have been in effect for many years regarding testing for lead in water coolers and food service areas. Proper testing procedures, use of certified laboratories and properly archived records are important in this matter. Records of how, where and when the samples were drawn and how they were analyzed should be saved by the district. The Institute has a list of water cooler brands and models that have been identified as containing lead components; if any of these are in place in the building, they should be reconfigured or eliminated. Several states are amending their protocol for flushing water so districts should check with their State Department of Health.

I. Curriculum

An environmental curriculum dealing with lead has been developed by the Minnesota Institute of Public Health, a nonprofit group which for 20 years has provided health programming and curricula for schools. Their pattern for teaching about lead involves selectively folding the different lesson plans regarding heavy metal risk into existing curricula at different grade levels, in ways that are nondisruptive. Incorporating this type of curriculum will demonstrate that the district is helping safeguard children from lead poisoning using its strongest asset--its ability to teach. Since the most salient exposures occur to children of preschool age in homes, this can have great value,both in the present home life of students with younger siblings and for our next generation.

J. Cleaning Regimen

The standard regimen and guidelines for cleaning buildings may need to be altered, given our new understanding of routes of lead exposures. Particularly where lead is found in the dust matrix, it would be important to consider wet-mopping using special cleaning agents, or implement procedures for wet-vacuuming carpeting more frequently with chelating agents. A problem with lead dust is that it tastes good (salty) to young children, and lead dust will adhere to a toy or hands and be readily ingested by a child, so efforts must be undertaken to clean up as much dust as possible. Lead does not clean up well using traditional methods and vacuuming will be unlikely to pick up lead because of its lack of charge and high specific gravity. Wet cleaning methods with a chelating agent may need to be employed in pre-1978 buildings, especially those housing younger children.

CONCLUSION

The problem before school administrators is real, and the Institute would like to help in its resolution. We have designed a lead program for school districts to help assure safety and compliance.

If you would like additional information regarding the Institute's lead poison prevention program, please contact:

Bill Sloan, Director of Special Projects
Institute for Environmental Assessment
433 Jackson Street
Anoka, MN 55303
1-800-233-9513; 612/427-5310

SUGGESTED SCHOOL BOARD POLICY ON PREVENTION OF LEAD POISONING

This suggested policy was prepared by the Institute for Environmental Assessment on behalf of the Michigan Association of School Boards and, in October 1992, presented to the State School Boards Association Directors at a meeting of the National School Boards Association.

WHEREAS, it is presently understood that exposures to doses of lead much smaller than previously thought represent a definable risk to children's health and their ability to learn, t

NOW, THEREFORE, the District will undertake the following efforts:

- The District assures that all products used and procedures employed by the District will preclude improper lead exposures. This will include controlling the use and maintenance of lead-bearing building products and avoidance of any educational or maintenance procedures and products which may create lead exposures.
- The District assures that a curriculum and a parent/guardian outreach program will be implemented to properly communicate risks from lead and other heavy metal exposures in an attempt to help prevent such exposures.

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IEA PRODUCT SAFETY DATA

The information on this form is generally supplied by manufacturers or wholesalers of the products or components. Considering the changing findings regarding components and health, the information contained herein may not be the final word in health and safety but should represent a sound starting point.

REVIEWED INDEPENDENTLY:

YES ☐ NO ☐

Date: 10/11/90

PRODUCT: LEAD METAL

Chemical Name or Synonyms: Lead Metal, Granular

Mfr.: Sargent-Welch Scientific Company
Address: 7300 N. Linder Avenue
Skokie, IL 60077
Phone: 312-677-0600

SAFETY EQUIPMENT:

Safety equipment is sometimes required only under specific conditions, but even if it is not suggested here, it still should be considered for use. (See PRECAUTIONS section for more information.)

EMERGENCY:

Emergency Phone: 312-677-0600

Carcinogenicity: Not available

NTP: IARC: OSHA:

EMERGENCY FIRST AID:

EYES: Flush with flowing water for at least 15 minutes. Seek medical attention.

SKIN: Wash contact area thoroughly with soap and water.

INHALATION: Move to fresh air. Seek medical attention.

INGESTION: If conscious, have patient drink water and induce vomiting. Seek immediate medical attention.

ROUTES OF ENTRY: Not available INHALATION: INGESTION: SKIN:

SIGNS & SYMPTOMS OF EXPOSURE: Inhalation of dust or fumes from melted lead or ingestion may cause lead poisoning.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Not available

HEALTH HAZARDS (Chronic and Acute): Not available

LIMITS OF SAFE USE (TLV): 0.2 mg/m3

PRECAUTIONS:

BREATHING PROTECTION: NIOSH approved respirator if creating dust or fumes.

VENTILATION: Local exhaust if creating dust or fumes.

PROTECTIVE GLOVES: Rubber gloves.

EYES: Eye protection recommended and emergency eyewash.

OTHER: Laboratory apron or coat.

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FORMULA:

POTENTIALLY HAZARDOUS INGREDIENTS:	%	OSHA PEL	TLV
Not applicable			

PHYSICAL DATA:

APPEARANCE AND ODOR: Metalic - odorless.

BOILING POINT: 2935°F

SPECIFIC GRAVITY (Water=1): 11.34

VAPOR PRESSURE (MMHG): Not applicable

% OF VOLATILES BY VOLUME: Not applicable

VAPOR DENSITY (AIR=1): Not applicable

EVAPORATING RATE: Not applicable

SOLUBILITY IN WATER: Insoluble

MELTING POINT: Not available

FIRE, EXPLOSION & REACTIVITY:

FLASH POINT: Non-flammable
FLAMMABLE LIMITS: Not applicable LEL: UEL:
EXTINGUISHING MEDIA: Use extinguishing media appropriate to surrounding fire.
SPECIAL FIREFIGHTING PROCEDURES: Wear self-contained breathing apparatus and full protective equipment.
UNUSUAL FIRE AND EXPLOSION HAZARD: Harmful lead fumes will be evolved at red heat temperatures.

REACTIVITY:
STABILITY: Stable CONDITIONS TO AVOID: Not available
INCOMPATIBLE MATERIALS: None
HAZARDOUS DECOMPOSITION PRODUCTS: Lead fumes will be evolved at red heat temperatures.
POLYMERIZATION: Will not occur. CONDITIONS TO AVOID: Not available

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SAFE HANDLING & USE:

HANDLING & STORAGE: Store in a tightly closed container. Wash thoroughly after handling and prior to eating or smoking.

SPILL OR LEAK: Gather up spilled material and place in a container. Material should be recycled.

WASTE DISPOSAL METHOD: This material has value on a recycle basis. Recycle.

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Judgments as to the suitability of information herein for purchaser's purposes are necessarily purchaser's responsibility. Therefore, although reasonable care has been taken in the preparation of such information, IEA extends no warranties, makes no representations and assumes no responsibility as to the accuracy or suitability of such information for application to purchaser's intended purposes or for consequences of use.

Additional information may be obtained by looking up specific information on compound ingredients in the NIOSH/OSHA GUIDE TO CHEMICAL HAZARDS (See: Laboratory Sciences Reference Document) or by contacting the Institute for Environmental Assessment (IEA), Box 101, Anoka, MN 55303; (800) 233-9513, (612) 323-9770.

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GOBBELL HAYS PARTNERS, INC.
ARCHITECTS • ENGINEERS • ENVIRONMENTAL CONSULTANTS

INTRODUCTION

Gobbell Hays Partners, Inc. has developed this list of questions in the form of a checklist to assist building owners and their representatives, government and private agencies, engineers, architects and construction management firms in planning and managing a successful lead-based paint abatement project.

This checklist is a helpful tool in organizing a lead-based paint abatement project from the initial planning stage through design documents and specification preparation to the reoccupancy of the area.

The user of this checklist should consider that each project is unique in nature and scope. This checklist should not be used in order to replace a registered architect or engineer specializing in lead-based paint abatement design and monitoring. The user should be trained in lead-based paint abatement design and supervision.

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A CHECKLIST TO ASSIST IN PREPARING LEAD-BASED PAINT SPECIFICATIONS

___ Is the scope of work clear?

___ What does the scope of work include?

___ Does the scope of work include replacement of paint or building components?

___ Are all lead-based painted surfaces identified?

___ Is the sequence of work clear?

___ Are different phases of the work identified?

___ Which units are to be abated first?

___ Are appropriate notification requirements specified?

___ Have the tenants and occupants of the adjacent units been notified?

___ Are appropriate regulatory notifications specified?

___ Did the owner prepare, with his insurance counsel, the requirements for insuring the project?

___ Has the owner requested workman's compensation and liability insurance from the contractor?

___ Has the owner requested errors and omissions insurance from the consultant?

___ Are there requirements for bid, payment and performance bonds?

___ Are submittals, such as methods and equipment, required to be provided by the contractor?

___ Are there any manufacturer's data sheets required for specified equipment?

___ Are there requirements for a project progress schedule?

___ Are all job conditions and environmental controls specified?

___ Are the requirements of tenant relocation addressed?

___ Has the requirement for the pattern of on-site traffic been established?

___ Has the requirement for repairing damages caused by the contractor been mentioned?

___ Has the availability of necessary utilities been addressed?

___ Are all pre-abatement procedures defined?

___ Is it necessary to remove all furniture?

___ Have all the unmovable items been properly addressed?

___ Have all critical barriers been specified?

___ Has the plastic sheet covering requirement been specified?

___ Has pre-abatement testing and sampling been specified?

___ Does the soil outside the building require sampling?

___ Do the baseline lead levels in the soil and on the surfaces need to be measured?

___ Is there a requirement of measuring lead levels in the blood of building occupants, specifically children under the age of 6, prior to and after a period following the abatement required?

___ What are the initial clean-up requirements?

___ Are HEPA vacuuming requirements specified?

___ Are the requirements for pre-cleaning furniture and items that need to be relocated, specified?

___ Are all abatement methods specified?

___ Is any encapsulation and chemical stripping required?

___ Are all OSHA and EPA labeling and signs specified?

___ Is establishment of the regulated area specified?

___ Are the project boundaries clear?

___ Are state and local regulations, as well as HUD requirements in housing applications, referred to?

___ Are proper worker protection procedures specified?

___ What kind of respirators and disposable clothing are required?

___ Are requirements of HEPA vacuum and negative air machines specified?

___ Are the calculations for the number of these machines specified?

____ Are the qualifications of the contractor specified?

____ Have the submittals of contractors training records, certificates, resumes, references and a comprehensive list of previous projects been requested?

____ Are monitoring procedures specified?

____ Are air sampling requirements specified?

____ Are all post abatement wipe sample requirements and methods specified?

____ Are quality assurance procedures for the monitoring specified?

____ Are requirements of blank and quality control samples mentioned?

____ Is the requirement of an alternate laboratory for analyzing quality control samples specified?

____ Are all clearance criteria and limits identified?

____ What are the levels of lead acceptable for the project to be cleared?

____ Do different areas have different clearance criteria?

___ Are the qualifications of the testing laboratory requested?

___ Are all the EPA, OSHA and any other laboratory accreditations specified?

___ Are record-keeping procedures outlined with a means of enforcement?

___ Are the daily logs and photographs requested?

___ Are the submittals of medical records, training certificates and fit testing records requested?

___ How is waste disposal going to be handled?

___ What test methods are used to determine the disposition of waste?

___ Is the appropriate labeling for the waste bags specified?

___ Is the requirement for continuous clean-up and disposal specified?

___ Are the appropriate paperwork and signage for the transportation company in order?

___ Is the required paperwork for the hazardous waste disposal site in order?

____ Are the procedures and requirements for final clean-up specified?

____ Are the requirements for the final HEPA vacuuming and wet washing specified?

____ Has the "substantial completion" date been established in the specification?

____ What are the requirements for releasing the contractor?

____ What are the procedures for final visual and wipe tests?

____ Is the need for the contractor to respond to the punch list items prior to receival of final payment specified?

____ Is the requirement for the contractor to provide "record" drawings specified?

____ Is there any requirement for future maintenance?

____ Any special care required for abated areas, specially in the case of encapsulation?

____ Are all the requirements for appropriate completion and final notices specified?

____ Are all the areas affected by abatement indicated on the notice?

___ **Are the requirements of assisting the tenants with their final move specified?**

For additional information regarding specification preparations, consult Gobbell Hays Partners; San Francisco, CA at 415/398-7254 or Nashville, TN at 615/254-8500.

WRITING SPECIFICATIONS FOR LEAD BASED PAINT PROJECTS

Steve M. Hays, P.E. C.I.H.
Gobbell Hays Partners, Inc.
217 Fifth Avenue North
Nashville, Tennessee 37219

September 4, 1992

Contract specifications should provide the technical foundation and framework for a properly designed, properly managed, and properly executed abatement project. Well-written specifications are also a contractual and legal document that should serve and protect the owner, contractors, and consultants. This article will answer six questions that are vital to a discussion of specifications for lead abatement projects: What are specs? Why are specs critical? How are specs prepared? What are the pitfalls? How are specs monitored? What are the enforcement options?

What are specs? Contractors are often predisposed to view specs as an unnecessary evil with the primary objective of bringing various forms of pressure to bear on contractors. If the contractor is incompetent or unethical, certainly specs can serve that purpose. However, given a good and competent contractor, a good and competent owner, and good and competent consultants, specs should be a binding part of a lead abatement contract and should define and describe the interests of all parties. Properly prepared specifications insure that the owner gets what he paid for. They prevent the contractor from having to do more work than he bid on. They define the roles and responsibilities of the various consultants involved in the project, such as the engineers, architects, lab consultants, and industrial hygienists. The burden of successful abatement project completion rests on these three distinct entities; owner, contractor(s), consultant(s). The specifications, by defining the roles and responsibilities of these three entities, form what is analogous to a three-legged stool on which success may perch or collapse.

With this general purpose in mind, specifications are precisely defined as written instructions to the contractor. They describe the scope of work and the time and sequence in which the work must be performed. They are a statement of performance standards, procedures, regulations, acceptance criteria, and payment criteria.

Why are specs critical? Specifications are critical to the abatement process for many reasons. They set project technical and administrative standards which make competitive bidding fair and possible. All bidders price the same work practices and end products, within the limits of variation allowed by the specs. The owner then obtains prices that may be reliably and logically compared on the basis of cost alone. Specs may be used for an open bid process, in which any qualified contractor may participate, or for an invited bid process, in which selected contractors are asked to submit bids.

Specs also serve as a standard for negotiating contracts and can allow the flexibility of negotiating procedures and products, as well as price, by providing a starting point that is clearly articulated and understood by all. Proper health and safety measures are easier to insure and enforce with written specifications that describe work practices and performance standards. Contract specs apprise the abatement team of the proper administrative procedures that are necessary to satisfy the owner and to allow timely payment of invoices. Finally, enforcement of proper execution of the project would be impractical and unfair without written documentation, so the specifications become the documentation that establishes the rules of conduct for all the participants.

Specifications are especially critical in establishing what project procedures will be used that are more stringent than applicable regulations and guidelines. Respiratory protection is a good example. While OSHA might require only a half-face negative pressure respirator for a given project environment, specification of a powered air purifying respirator, which offers a greater degree of protection, is often preferred. Another example is the number of wash and rinse cycles required to decontaminate a work area. More or less decontamination may be necessary for a given project than is standard in the industry.

How are specs prepared? Specifications must be prepared with great attention to detail and consistency in order to be helpful and enforceable. There are two major genera of specs that must be prepared and used in different ways. Performance specs focus primarily on characteristics of the end product. For example:

> Steel Wall Framing: Select members which are true and straight for fabrication of steel wall framing. Straighten as required to provide uniform, square and true members in completed wall framing.

This genus is typical for new construction and allows contractors the flexibility to use various construction techniques and work practices as long as the final finished product meets the predetermined standards.

Means and methods (prescription) specs focus on procedures and work practices, as well as performance standards. Performance standards for abatement work dictate necessary end results, such as wall finishes that are protected from lead dust contamination. Means and methods specifications, however, establish not only the number of layers of plastic on the walls but also the procedures for installing the plastic. For example:

> Mechanically support sheet plastic independently of duct tape or spray cement seals so that seals do not support the weight of the plastic. Following are acceptable methods of supporting sheet plastic barriers. Alternative support methods may be used if approved in writing by the Owner's Representative.
>
> Plywood squares 6" x 6" x 3/8" held in place with one 6d smooth masonry nail or electro-galvanized common nail driven through center of the plywood and duct

tape on plastic so that plywood clamps plastic to the wall. Locate plywood squares at each end, corner and at maximum 4' on centers.

Nylon or polypropylene rope minimum 1/4" in diameter suspended between supports securely fasted on either side of opening at maximum 1' below ceiling. Tighten rope so that is has 2" maximum dip. Drape plastic over rope from outside work area so that a 2' flap of plastic extends over rope into work area. Staple or wire plastic to itself 1" below rope at maximum 6" on centers to form a sheath over rope. Lift flap and seal to ceiling with duct tape or spray cement. Seal loop at bottom of flap with duct tape. Erect entire assembly so that it hangs vertically without a "shelf" upon which debris could collect.

These specs should apprise the contractor of industry standards, defining the state-of-the-art practices and procedures.

In a lead based paint (LBP) removal project the point of the entire process is how you do it, or the means and methods. There is not an end product in the classic sense of new construction. If the process is accomplished utilizing an improper process, contamination of work and non-work areas could occur. In the case of LBP abatement, or abatement of any other hazardous material, the ends do not justify the means. Means and methods specs, therefore, are a very necessary part of the design process.

The combination spec is a blend of the performance and means and methods genera. Usually a well-written spec for LBP abatement will be in this combination format. Sections relating to the abatement should be means and methods; sections dealing with the reconstruction or modernization of the building, in terms of elements such as finishes, should be the traditional new construction performance-based spec.

What are the pitfalls? There are possible pitfalls inherent with any specification. Some are not stringent enough or are worded so that they are unclear. A contractor can get caught up in what could be called a "do it by the regs" syndrome. Often, following regulations only is not stringent enough to produce a satisfactory project result. Still, some contractors, owners, and consultants associate these regulated minimum standards with apple pie and motherhood, assuming that following the regulations makes them good guys. An extreme example of this simplistic approach follows.

> Section 01572
> Lead Based Paint Abatement, Building Demolition
>
> Part 1 - General
>
> 1.1 Description: The existing buildings to be demolished are known to contain lead based paint, which the Contractor must remove in accordance with applicable local, state and federal regulations prior to general demolition.

> 1.2 Manifest: For each truckload of lead contaminated material removed, provide immediately a manifest pertaining to transport and disposal of the material to the Resident Engineer in conformance with Federal Department of Transportation and State regulations.

Controls on the project would be impossible to maintain and the bid prices could be far above industry averages.

Specifications can also be overly stringent to the point of setting unreasonable or impossible standards. They may be impractical for a specific project. Poorly written specifications may contain conflicts within the document itself or conflicts between the specs and drawings.

A major potential pitfall exists in specifications that are performance-based only, for reasons previously explained. The contractor and owner should be aware of, and beware of, specs that are entirely performance-based.

How are specs monitored? Certainly specifications need to be monitored. The person monitoring for specification compliance will usually key on two groups of issues. First, attention must be given to the items most critical to the abatement project. These are the items such as health and safety, work practices, regulations, and work area preparation. The other issues to which the monitor will pay attention are the other practices and procedures which have any effect on the first category of critical items. This would include elements such as personnel flow, flow of equipment and materials, general work methods, the protection of building finishes, replacement materials, and protection of mechanical, plumbing and electrical equipment.

The performance of all entities should be monitored by someone. In general, the consultant who is the author of the specs and the laboratory consultant can serve to monitor the performance of the contractor and report to the owner. The owner, however, should be aware of how the consultant and the lab are performing their duties. For the owner's benefit on large and complex projects, someone on his staff who has some LBP abatement training should serve as the in-house liaison who can communicate with the professionals, and thus keep the owner thoroughly apprised of the progress of the project.

What are the enforcement options? If the monitoring process determines that the specs are not being properly followed, there are several enforcement options. The owner is the party to which the contractor is bound by the abatement contract. So, contractually, the owner is the one with the legal right to act if a violation occurs. He may, however, choose to assign this responsibility to his representative, such as the consultant. it is the owner's representative, then, who has the legal right to stop the work if it is not in compliance and to demand that the job be brought into conformance with the specs. Procedures for issuing stop work orders and for designating an owner's representative are covered in the specifications and in contract documents between owner and contractor.

Another enforcement issue obviously related to regulatory authorities such as federal and state OSHA inspectors and local building codes officials. Laws generally give these officials the rights to stop work and/or issue citations. As a general rule, if regulations are being violated, many other parts of the specification are also being violated.

Some enforcement procedures are often applied by using the right of critical point inspection. The specifications will indicate to the contractor that at certain points in the work progress, he must stop and request inspection by the owner's representative; he cannot proceed until the owner's representative has made the appropriate inspection. Specs may indicate that if the contractor proceeds without requesting the designated inspection, the owner's representative may demand that the work be redone so that the proper inspection can take place.

One of the key acceptance criteria is the dust clearance standard. That, of course, is used as the final measure of whether the contractor has properly executed the work.

The most powerful enforcement tool that the owner has is related to pay requests. If the owner has reason to believe that the contractor is not performing in accordance with the specs, he may refuse to honor pay requests.

In summary, specifications are documents that should be uniquely prepared for each job. The more detailed and specific the specs are, the lower the bids will usually be. Specs that are very general and vague often result in higher than necessary costs to the owner. Finally, specifications are critical to a successful project, and the complexity of the specs should be dictated by the project.

INFORMATION ON LEAD HAZARDS FACT SHEET #5

Clean up of Lead Bearing Dust

A careful and complete cleaning of the work area is necessary to prevent exposure to lead for people, especially young children, who use the area in the future. Lead dust that remains on surfaces can get onto toys, food, hands, or even a pet dog, or cat. From there, lead dust can easily find its way into a child' mouth.

Clean up materials

1. Plastic gloves
2. Spray bottle with water
3. Heavy duty plastic bags – use single 6 mil bags or double 4mil bags.
4. Cleaning solution containing Tri-Sodium Phosphate (TSP). At least one ounce of 5 percent TSP to each gallon of water used. Prepare with hot water.
5. Bucket(s)
6. Cleaning items: disposal lint-free towels, rags, sponges and mops.
7. HEPA Vacuum cleaner (special vacuum cleaner with a "High Efficiency Particle Air" filter)

Clean up procedure

Before you start review Fact Sheet #1: Health and Safety precautions.

1. Put on plastic gloves. This will protect hands from the TSP used in the cleanups.
2. Use the spray bottle to wet down all dust and debris with a fine mist of water. This will help control the dust during the cleanup.
3. Wrap all debris in the plastic sheets used during the abatement. Place these sheets in the plastic bags and tie them shut.
4. HEPA vacuum **all surfaces** in the work area including woodwork, walls, windows, window wells, and floors. Start at the ceilings and work down, cleaning the floors last. **Warning: common household vacuum cleaners do not filter lead and only spread lead dust.**
5. Wash **all surfaces** in the work area with the TSP solutions, including the ceiling and areas that had been covered with plastic. Start with the ceiling and work down to the floors. Mix up a new solution of TSP frequently so it remains relatively clean.
6. Discard all items used for cleaning (towels, sponges, rags, mopheads) in a plastic bag after they have dried.
7. HEPA vacuum **all surfaces** a second time until no dust or residue can be seen.
8. After repainting, clean the area again with the TSP solution as described above.
9. To be sure that lead dust levels remain low, residents should clean these surfaces with a mild solution of TSP and hot water once a week.

Homeowners doing their own lead paint abatement, who do not have access to a HEPA vacuum cleaner **may** substitute the following procedure for steps 4, 5, and 6. Use of a HEPA vacuum cleaner is preferred.

4. Wash **all surfaces** in the work area with the TSP solution, including the ceiling and areas that had been covered with plastic. Start with the ceiling and work down to the floor. Mix up a new solution of TSP frequently so it remains relatively clean. Discard all items used for cleaning (towels, sponges, rags, mops heads) in a plastic bag.
5. After all surfaces have dried, wash all surfaces a **second time** using the same procedure as in step 4.
6. Use a "wet and dry" vacuum cleaner to vacuum all surfaces while they are still wet. Surfaces should dry free of dust or residue.

CLIP
Childhood Lead-poisoning Intervention Program
Central Virginia Health District
1900 Thomson Drive, Lynchburg, VA
P.O. Box 6056 Lynchburg, VA 24505-6056
804/ 947-2328

September 1991

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TITLE OF MATERIAL: Complaint form

USE OF MATERIAL: This form is used by deleaders and inspectors when a problem occurs at the deleading site.

BEST COPY AVAILABLE

[illegible] ____________________

DATE OF COMPLAINT ____________________

NAME/ADDRESS OF INSPECTOR/DELEADER: ____________________ [illegible]

____

____

TELEPHONE: ____________________

ADDRESS OF INSPECTION/DELEADING: ____________________

____

OWNER'S NAME/ADDRESS: ____________________

____

NAME/ADDRESS OF COMPLAINANT: ____________________

____

____

TELEPHONE: ____________________

NATURE OF COMPLAINT: ____________________

____

____

____

____

____

ACTION TAKEN: ____________________

____

____

____

____

____

____

____

____

____

COMPLAINT INVESTIGATED BY: ____________________

REG/LIC # : ____________________

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TITLE OF MATERIAL: Letter

USE OF MATERIAL: Notice of violations in deleading procedures. This form is used by inspectors.

The Commonwealth of Massachusetts
Executive Office of Human Services
Department of Public Health
Childhood Lead Poisoning Prevention Program
305 South Street, Jamaica Plain, 02130

Michael S. Dukakis
Governor
Philip W. Johnston
Secretary
David H. Mulligan
Commissioner

____
Date

Dear ________________________:
Owner's Names

A reinspection of the lead paint violations at ________________________ (address) was conducted on ____________ (Date). The work being performed was not adequate in that safety precautions were not sufficient to protect the workers and/or the tenants. As stated in the lead poisoning prevention regulations:

> 460.140: Cleaning of Areas Being Corrected:
>
> Areas being corrected shall be completely cleaned at the end of each working day so that children may return to the area in safety.
>
> 460.150: Use of Respirators During Paint Removal:
>
> Each individual removing lead based paint by any method shall always wear an approved respirator to lessen the danger of contracting acute lead poisoning.
>
> 460.170: Violations Punishable Under Sanitary Code:
>
> Any person who shall fail to comply with any order issued persuant to the provisions of this code shall upon convictions be fined not less than ten nor more than five hundred dollars. Each day's failure to comply with an order shall constitute a separate violation 105 CMR 400.700A.

Please be advised that if violation(s) of these regulations persist, criminal complaint will be sought.

Sincerely,

____
Inspector

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Form No. 13.
CLPPP 36 + 37 Safety Vio.

TITLE OF MATERIAL: Cease Work Order

USE OF MATERIAL: This form is used when deleading violations have occurred.

The Commonwealth of Massachusetts
Executive Office of Human Services
Department of Public Health
150 Tremont Street
Boston 02111
(617) 727-2700

Michael S. Dukakis
Governor

Philip W. Johnston
Secretary

David H. Mulligan
Commissioner

CEASE WORK ORDER

Pursuant to M.G.L. c.111, §197B(f)(3), you,

____
(Name and/or Business Name)

are hereby ordered immediately to cease and desist all deleading work at ______________________________ for the
(Address)

reason that your work is in violation of

____
(Cite violation: c.111, §197 or 197B or specific regulation or order or terms or condition of license, registration or certificate)

and such violation will endanger or materially impair the health or well-being of ______________________________
(Occupant of premises or lead inspector or deleader or person employed in performing renovation to premises).

This order is effective immediately. Should you fail to comply with this order, you will be subject to legal proceedings.

Date______________________

____
Signature

Time______________________

____
Title
Childhood Lead Poisoning
Prevention Program
Department of Public Health
305 South Street
Jamaica Plain, MA 02130

____
Received a Copy (Signature)

I18 o

Rent Withholding

For use by inspectors of local health department. If orders are past due tenants may pay their rent to the city instead of the property owner. When compliance is met the property owners get their money back minus administrative fees. Originally developed by the department of Building Inspection for the same purpose.

City of Milwaukee
Department of Building Inspection
278-2499

RENT WITHHOLDING APPLICATION

LOCATION OF PROPERTY ______________________________ APT. NO. ________
Address Zip

Name of TENANT
Making Request: ______________________________ TELEPHONE NO. ______________

OWNER NAME: ______________________ ________ TELEPHONE NO. (   ) ______________

ADDRESS: ____
City State Zip

DATE my rent is due: ______________

Have you been served with eviction papers? YES ☐ NO ☐

My Total Rent : $ ____________

Are you also ABATING rent? YES ☐ NO ☐

ABATED RENT $ (-) ____________ ← **IF YES** write amount on this line and subtract from total rent.

Total rent to be paid by me: $____________

I want to have my rent withheld under the provisions of ordinance 200-22 and certify that the information given above is correct.

______________________ ____________ ______________________ ____________
Signature of Tenant Date District Inspector Date

NOTE: THE DEPARTMENT OF BUILDING INSPECTION HAS NO RESPONSIBILITY FOR THE COLLECTION OF RENT. UNDER THE PROVISIONS OF SECTION 200-22, YOU MAY, IF YOU WISH, PAY YOUR RENT INTO AN ESCROW ACCOUNT ADMINISTERED BY THE DEPARTMENT OF BUILDING INSPECTION INSTEAD OF PAYING IT TO YOUR LANDLORD. IF YOU FAIL TO PAY YOUR ENTIRE RENT WHEN THE RENT IS DUE, YOUR LANDLORD MAY HAVE GROUNDS TO EVICT YOU.

cc: Owner

✂

DETACH AND MAIL APPLICATION - PROPER POSTAGE REQUIRED

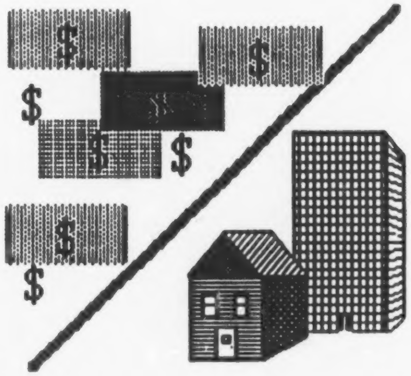
RENT ABATEMENT

The State of Wisconsin has a Rent Abatement Program that (dependant upon lease obligations) may allow the tenant to keep a portion of the rent for not being able to use all of their rental space due to code violations. The rest of the rent must be paid to the landlord. A tenant may choose to use both the City of Milwaukee Rent Withholding program and the State of Wisconsin Rent Abatement program.

For further information on Rent Abatement or Rent Withholding, **contact Community Advocates at 449-4777.**

Bldg. Ir 9/28/92

RENT WITHHOLDING



Tenants in buildings with code violations may pay their rent to the Building Inspection Department IF:

...the Owner does not repair the violations within the time set by the Department (regardless of any extensions of time to comply) AND

...the violation is for something other than exterior paint AND

...the Building is neither a rooming house nor an owner occupied duplex.

How to Apply

Fill in the blanks of the form on the other side of this brochure. Put on the proper 1st class postage and put in the mail.

Why Rent Withholding?

To encourage the owner to correct outstanding code violations by depositing your rent into an account controlled by Building Inspection. The rent is released to the owner once all the violations are corrected.

(Detach Here)

Place 1st Class postage here

City of Milwaukee
DEPARTMENT OF BUILDING INSPECTION
841 N. Broadway Rm 1008
MILWAUKEEE, WI 53202

ATTENTION INSPECTOR: ______________

(Fold Here)

EVERY home must have MORE than just ONE Smoke Detector in Milwaukee.

It's a LIFE SAVER —It's the LAW!

(Please tape shut here)

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SEP 29 1992
AECLP

CLEANING SPECIFICATIONS

I. Equipment needed for cleaning apartment or house

- 2 cotton mops (20 oz) for each 2,000 sq. ft.
- 2 pales, one with a mop squeeze.
- 1 cleaning cloth per window plus 2 per room (a terry cloth towel cut into 10" x 10" squares works well).
- A box of cleaning powder containing tri-sodium phosphate (TSP) such as Spic and Span.
- One sponge mop with replacement heads.
- Hepa vac vacuum cleaner with floor brush, corner tool and round cap brush.

II. The nature of lead dust

- *Lead dust is very fine*. It can not be seen. Where you can see paint chips, there is always lead dust. If you can't see paint flakes, there may still be lead dust. A regular vacuum cleaner may pick up as much as a hepa-vac, but some of the finest dust (lead dust is very fine) will blow back out again.

- *Lead dust is sticky*. You can't brush if off, it needs to be rubbed off. If rags and mop heads are not rinsed and changed often the dust will be smeared around rather than removed.

- *Lead dust accumulates in cracks over the life of a house*. If these cracks are not cleaned out and/or sealed up, the dust will migrate back into the room after cleaning.

III. Where lead dust is most often found:

- Wherever paint is flaking or peeling. This tends to happen where wood is most exposed to water such as, porches, windows, bathrooms, kitchens and where there have been roof or plumbing leaks.

- Where there is friction or impact against a lead surface. If the floor is painted where a door rubs against the frame, where a window sash rubs up against the window frame. The area with the highest concentration of lead dust area to be the window well; that part of the window into which the sash closes down.

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IV. The Clean Up - It's important that things are done in this order and no steps are left out:

1. Children and pregnant women must be out of the apartment during cleaning.

2. Remove rugs and send to be cleaned. A respirator or at least a dust mask should be worn when rolling up rugs, as carpets are very dusty. Wall to wall carpets can not be well cleaned.

3. Remove and send to be cleaned as much cloth as possible (curtains, spreads, etc). Prepare a small bucket of TSP wipe down as many small objects on shelves, bureaus, window stools, etc. as possible and put into boxes until cleaning is completed.

4. Vacuum the apartment from one end to the other. Within each room start from the top shelves, top of casing, picture, rail; etc., then do every inch of the windows, particularly the wells, then the floor using the corner tool where the floor meets the baseboard and all cracks in the floor boards. Use the round cup brush for all small surfaces and the corner brush for all corners.

5. Dust walls with damp, not wet, sponge mop and rinse often. After two or three rooms, change sponge mop head.

6. Pour TSP solution (mix according to instructions) into a plastic gallon or 1/2 gallon jug. Dampen the cloth squares by pouring the solution on them from the jog. Start from what can be reached outside. Rub down the window, do the well last. Throw away rag then do all of window with clean damp rag. Repeat this process for each window. Do all shelves, ledges, mantels, top of moldings, etc. in one room with another set of rags.

7. Mop floor. Put squeezer on one mop bucket. Put TSP solution in another bucket, wet mop in TSP, ring out and mop the floor, rinsing out mop frequently. Do not put mop in water that came from squeezing out mop. Do three or four rooms with one mop head, throw away and use a new mop head on those same rooms.

8. Maintain house by weekly vacuuming particularly the window wells, stools, and around baseboards. If there is any peeling or flaking paint, it should be dealt with (see wet scraping instructions); but meanwhile, at least keep any loose chips vacuumed up. Damp mop all rooms, changing mop heads each month.

Step-by-Step Summary

Clearance: How To Do It

1. Decide who will conduct clearance. Clearance on all abatement projects and federally funded interim control work must be done by a certified risk assessor or inspector technician. The U.S. Department of Housing and Urban Development (HUD) strongly recommends the use of a certified risk assessor or inspector technician who is completely independent of the lead hazard control contractor to eliminate conflicts of interest. Some local jurisdictions may require a license to conduct clearance.

2. Finish the lead hazard control and cleanup effort. Seal floors before clearance testing (if necessary).

3. Wait 1 hour to allow any airborne dust to settle. Do not enter the room during that hour.

4. Conduct visual examination.

    a. Determine if *all* required work has been completed and *all* lead-based paint hazards have been controlled.

    b. Determine if there is visible settled dust, paint chips, or debris in the interior or around the exterior.

5. Complete the Visual Clearance Form contained in this chapter; if all specified work was not completed, inform the owner and order completion of work and repeated cleanup, if necessary.

6. Conduct clearance dust sampling of floors, interior window sills, and window troughs using the protocol in this chapter.

7. Conduct clearance soil sampling if bare soil is present that was not sampled previously, or if exterior paint work was completed as part of the lead hazard control effort.

8. Complete the Dust and Soil Sampling Clearance Form contained in this chapter.

9. Submit samples to an Environmental Protection Agency (EPA) recognized laboratory participating in the National Lead Laboratory Accreditation Program for analysis.

Step-by-Step Summary (continued)

10. Interpret results by comparing them to the HUD Interim Clearance Standards contained in this chapter (until EPA issues its health-based leaded dust standards).

11. If clearance is achieved, go to step 15.

12. Order repeated cleaning if results are above applicable standards. Clean all surfaces the sample represents. If both window and floor samples fail, the entire unit must be recleaned.

13. Continue sampling and repeated cleaning until the dwelling achieves compliance with all clearance standards.

14. Complete any related construction work that does not disturb a surface with lead-based paint (all work that does disturb painted surfaces or that could generate leaded dust should be completed as part of the lead hazard control effort).

15. Issue any necessary certificate of lead-based paint compliances or releases and maintain appropriate records.

16. Permit residents into the cleared work area.

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INFORMATION ON LEAD HAZARDS FACT SHEET #6

Disposal of Hazardous Material and Debris

Anything which contains lead may become hazardous if it is not carefully managed. This is particularly true of wastes and debris generated by a lead abatement project. To protect the environment, these hazardous wastes and debris must be disposed of properly. Such lead hazards include:

- Old woodwork, plaster, windows, doors, and other painted components removed from the building.
- Plastic sheets and tape used to cover floors and other surfaces during lead paint removal.
- Sludge from paint removers used in the job.
- Liquid waste, such as wash water used to decontaminate wood after solvents or caustic paint strippers have been used.
- Rags, sponges, mop heads, HEPA filters, and other items used for cleanup.
- Disposable work clothes.

Disposal procedures for households conducting lead abatements

- Put lead-containing debris into heavy duty 6 mil plastic bags.
- Provide short-term storage in a secure place until waste and debris can be transported safely. Provide for protection from children, animals, the weather and other sources of disturbance.
- Remove all lead waste from the abatement site for collection. In Lynchburg, wood containing lead paint may be placed in municipal landfills.
- **Do not** burn debris. Fumes from lead which is burned will contaminate the air; lead in ash can also contaminate the environment.

Disposal of liquid waste presents special problems. When possible, avoid using abatement methods which generate liquids waste. Do not pour liquid waste on the ground or into storm drains.

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Childhood Lead-poisoning Intervention Program
Central Virginia Health District
1900 Thomson Drive, Lynchburg, VA
P.O. Box 6056 Lynchburg, VA 24505-6056
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September 1991

Appendix 10: Questions and Answers on Sampling Lead-Based Paint Hazardous Waste

1. What is considered a representative sample?

A representative sample consists of a collection of the various components of the waste in the same weight proportion as is found in the entire bulk of the waste. As such, a representative sample should contain a sample of all major items found in the entire waste stream, in an accurate weight proportion. If dealing with a large quantity of waste, a minimum of four samples should be taken at any one site. A single sample may be appropriate if there is a small quantity of waste. More samples may be necessary if the variability among samples is high. A site may be defined as a pile of debris generated in a given day or waste from a given work area.

2. How should representative sampling be conducted on abatement waste (*e.g.*, large woodwork pieces, windows)?

Waste from abatement projects can be characterized during a pre-abatement screening step or upon generation. Pre-abatement screening facilitates hazardous waste reduction via segregation of waste such as architectural components into hazardous and nonhazardous components. As a pre-abatement step for vacant residential units, an experienced contractor may be able to identify which of the architectural components should be tested through an assessment of paint quality and knowledge of paint history. Once the assessment is made, representative samples for different types of components should be taken for determining which of the components are hazardous. This approach reduces total quantities of hazardous waste through source characterization and segregation. This approach may be preferred by abatement contractors and/or housing project owners who are concerned about the cost of hazardous waste management.

If waste has been already generated, then follow the steps discussed next:

Estimate the total weight or mass of the debris before it is removed from the dwelling. Collect samples so that each major component of the debris is present in approximately the correct proportion, including the entire cross-section of the substrate. Alternatively, if the waste includes different types of materials, it may be most appropriate to sample from representative areas of a waste pile or from representative containers. For example, if doors and windows are to be sampled, and the door is 20 percent of the waste and the window is 10 percent of the waste, the sample should contain 2 parts door for each window part. Take a core (plug) sample of both the door and the window and combine it in the correct proportion, including the substrate and the surface paint on both sides.

3. Should samples be analyzed as intact pieces or should the material be cut into smaller pieces or ground into small particles?

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The laboratory conducting the analysis is required to cut the representative sample of the waste into pieces that will pass through a specific sieve size (generally 9.5 mm cubes will fit). The sample should not be ground up, but rather cut into small pieces (*e.g.*, ¼ inch hole saw plugs). The contractor should work with the laboratory to develop a standard procedure for sample preparation (*e.g.*, agreement should be reached in advance regarding who will be responsible for cutting the material. The laboratory may prefer a larger piece of waste which could then be cut into smaller pieces that would pass through the specified sieve size as a sample preparation step performed in the laboratory.

4. Who can I call for more information on TCLP sampling and analysis?

EPA maintains two hotlines equipped to answer such questions. The general RCRA hotline number is 1-800-424-9346. RCRA hotline staff can answer RCRA questions, including TCLP sampling and analysis. EPA also runs a second hotline dedicated to SW-846 sampling methods at (703) 821-4789.

5. How should I go about selecting a laboratory to conduct TCLP analysis?

As a first step, identify a list of potential labs that perform the TCLP in your area. Such a list can be obtained from other property owners and/or contractors who have used labs for this purpose. Most states also maintain a list of accredited or registered labs. A small number of states accredit labs for TCLP testing (e.g., California). The American Industrial Hygiene Association (703) 849-8888 and the American Association of Laboratory Accreditation (301) 670-1277 can also provide lists of laboratories in your area. Below are several questions that may be helpful in interviewing potential labs.

- Is the lab located in a state that accredits labs for TCLP testing (e.g., California)? If so, are they accredited?

- Does the lab have written sample preparation procedures (i.e., how do they prepare the sample to undergo the leaching procedure)?

- Does the lab have their own lab-specific written procedures for performing the TCLP (not just a copy of federal guidance)?

- What quality control procedures are used to ensure data are accurate (e.g., multiple reviews of results)?

- What will the final report look like? For example, will it specify detection limits and sample preparation techniques used?

- What is the turn around time and cost of performing the TCLP? (Note that an average price for running a TCLP test for lead only is between $60 - $100.)

Chapter 10
Hazardous and Nonhazardous Waste

Step-by-Step Summary

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II. Overview of Federal Requirements: Determining if a Waste Is Hazardous Under RCRA 10–1
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  B. Corrosivity 10–3
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Step-by-Step Summary

Managing Hazardous and Nonhazardous Waste: How To Do It

This checklist is based on existing Federal requirements. EPA is considering changes in the hazardous waste regulations for waste generated by lead-based paint abatement activities. Until changes are formally adopted, however, those producing hazardous and non-hazardous solid waste should comply with the existing regulations implementing the Resource Conservation and Recovery Act (RCRA) Subtitle C and D. States should be consulted when determining how to manage abatement waste in a given locale. Although EPA has the authority to enforce the RCRA regulations, the States are the principal enforcement authorities.

1. Determine if the waste will result from an interim control or an abatement effort. Interim control waste from single and multifamily residences may be considered as ordinary household and exempt from hazardous waste regulations, if the waste is generated as part of routine residential maintenance. Contact your State to determine whether interim control waste can be handled as a household waste. Even if exempt from hazardous waste management requirements, interim control wastes should be managed carefully in accordance with State regulations and other practices described in this chapter.

2. Wastes from abatement activities must be evaluated for its potential to be hazardous waste primarily under the RCRA Toxicity Characteristic. Contact State or local agencies to determine whether they have special regulations for abatement waste.

3. To minimize the total quantities of waste generated, conduct abatement efforts that generate reduced quantities of both hazardous and nonhazardous waste for disposal. For example, remove non-painted material (e.g., glass from windows), and non-painted wood, metal, concrete, or bricks from demolition waste, and painted waste that could be recycled. Do not recycle architectural components that are coated with lead-based paint as mulch or for use in other construction unless lead-based paint is properly removed.

4. As a pre-abatement screening step, make a RCRA hazardous waste toxicity characteristic determination (using knowledge or waste analysis data) for various components of the LBP abatement waste categories. Depending on the hazardous waste determination, segregate abatement waste determined as hazardous from non-hazardous waste, and accumulate accordingly in separate containers.

5. Generally, you may separate abatement waste into the following four categories (described more fully in Table 10.1).

Category I:	Low Lead Waste (typically nonhazardous)
Category II:	Architectural Components
Category III:	Concentrated Lead Waste (typically hazardous)
Category IV:	Other Waste

Step-by-Step Summary (continued)

6. Determine how much hazardous waste will be produced clarify "during a specified time period at your site. Ifless than 100 kg (approximately 220 pounds or 1/2 of a 55-gallon drum) of hazardous waste per month will be generated, it is considered "conditionally exempt" abatement waste and may be managed as solid nonhazardous waste and delivered to a State-licensed or -permitted solid waste management facility. (HUD recommends that such waste not be incinerated.) The RCRA hazardous waste manifest is not required when shipping this waste to an offsite disposal facility.

7. Do not accumulate more than 1,000 kg of the conditionally exempt abatement waste at any time. The conditionally exempted waste should be handled carefully in accordance with the HUD-recommended management practices described in this chapter.

8. Comply with RCRA hazardous waste regulations, if more than 100 kg (approximately 200 pounds or 1/2 of a 55-gallon drum) of hazardous waste per month will be generated. At a minimum, the following Federal requirements must be met:

   - Obtain a Generator Identification Number before shipping the hazardous waste to an offsite facility for management, recycling, or disposal.

   - Accumulate hazardous waste in storage tanks or containers. Label storage units as "hazardous waste", recording the accumulation start date on the label. Train workers on waste handling and emergency procedures.

   - Maintain storage containers or tanks in compliance with the 40 CFR Part 265, Subpart I or J standards, respectively.

   - Do not accumulate hazardous waste for more than 90 days, if more than 1,000 kg per month of hazardous waste is generated at the site. A hazardous waste storage permit is generally necessary when the waste must be stored beyond 90 days. (See accumulation requirements for more than 100 kg and less than 1,000 kg per month of hazardous waste generator in Section IV.)

   - Engage the services of a licensed hazardous waste transporter and/or a management facility with proper permits.

Step-by-Step Summary (continued)

- Package hazardous waste and properly label, mark, and placard the packaged waste according the Department of Transportation regulations, prior to shipment.

- Complete and sign the Uniform Hazardous Waste Manifest, and get the signature of the transporter on the manifest when releasing a load of hazardous waste. You must receive a signed manifest from the designated hazardous waste facility within 35 days.

- Comply with the RCRA Land Disposal Restrictions including notification/certification requirements.

- Submit biennial report describing waste generation and management activity when generating more than 1,000 kg per month of hazardous waste at each site.

- Maintain all waste determination and handling records for at least 3 years.

9. HUD recommends Category II architectural components that are determined to be nonhazardous should be wrapped and sealed in plastic, covered during transport, and disposed of in a State-approved solid waste landfill. Such waste should not be burned in a municipal solid waste incinerator, recycled to produce mulch, or reused unless all lead-based paint is removed physically or chemically to generate "clean surface" substrate.

10. Nonhazardous solid waste must be discarded in accordance with State and local requirements.

The OSHA Lead Standard & Lead-Based Paint Abatement

Summary prepared by Dave Jacobs, CIH

Application of the OSHA Lead Standard for General Industry to Construction

OSHA Industrial Hygiene Technical Manual
OSHA Instruction CPL 2-2
OSHA General Duty Clause (5a1)
OSHA Memo dated Sept 25, 1990

Conclusion: The main provisions of the general industry standard will be enforced in construction

How to Comply--OSHA Hierarchy of Controls (in order of preference)

Substitution
Enclose the process; enclose the worker
Local ventilation; dilution ventilation
Administrative controls
Work practice controls
Respirators and other personal protective equipment
In practice, use a combination of these

History

1971 - OSHA adopts a consensus Threshold Limit Value of 200 $\mu g/m^3$ (micrograms of lead per cubic meter of air) as its Permissible Exposure Limit (still in effect for the construction industry)

1977 - 81 Carter Administration with Eula Bingham as OSHA secretary backs efforts to develop more health standards

1978 - OSHA issues Lead Standard after Bingham publicly complains about the "palace guard surrounding Carter."

Court Action

1980 - DC Circuit upholds most of the standard, but demands increased flexibility for 38 industries

1982 - OSHA stays the deadline for primary & secondary lead smelting, battery manufacturers and others, Steel Workers contest

1984 - DC Circuit orders OSHA to lift the stay for some industries

1988 - Some industries still do not comply, but by and large the standard is considered by many to be a success in nearly eradicating once-prevalent lead poisoning in industry.

OSHA Lead Standard (29 CFR 1910.1025) applies to all industries, but does not apply to construction or agriculture. Lead based paint abatement is technically construction, so the OSHA standard does not legally apply, except in some states which have their own OSHA plans (e.g. Maryland). Recommend that OSHA standard be considered recognized practice, and should guide all lead-based paint abatement projects

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OSHA PEL (Permissible Exposure Limit) = 50 $\mu g/m^3$ (8 hour average)
for a shift other than 8 hours, calculated the PEL as follows:

PEL = 400/No. of hours worked

OSHA Action Level = 30 $\mu g/m^3$

OSHA allowable blood lead level = 40 μg/100 of whole blood; if above 50 (avg. of last three measurements) or 60 (one measurement), the worker must be removed from exposure at no loss in pay or benefits. Too high? "Healthy People 2000" (CDC) uses 25 μg/dl for adults.

Blood Lead Level Units
OSHA - μg/100 g
Most labs - μg/dl (micrograms/deciliter of blood)
Scientific literature - μmol/L (micromoles/liter of blood)

Blood Lead Level Unit Conversions
μg/100g roughly equals ug/dl (density correction factor is 1.056)
To convert μg/dl to μmol/L, use the gram molecular weight of lead (207 g/mole, or 207 μg/umole)

$$\text{Thus: } \frac{40\ \mu g/dl \times 10\ dl/L}{207\ \mu g/\mu mol} = 1.9\ \mu mol/L$$

CDC allowable blood lead level in children was 25 μg/dl, and is now 10 μg/dl (with a multi-tiered response

Exposures above the action level requires:
exposure monitoring
medical surveillance
training and education

Exposure Monitoring is the exposure which would occur whether or not a respirator is used.
Full shift
Sampling and analytical error allowed is + or - 20% at 95% confidence level
Use lab accredited by the American Industrial Hygiene Association
Employees have right to see results
If exposures above PEL, employer must provide a written statement that overexposure has occurred and how it will be corrected.

Personal Air sampling (inside worker's breathing zone) results during abatement projects

Propane torch (now banned by HUD regs)	4,200 - 10,900 $\mu g/m^3$
Grinding (also banned by HUD)	2,000 - 11,000 $\mu g/m^3$
Cleanup and wet washdown	190 - 750 $\mu g/m^3$
Ripout of baseboards & window trim	9 - 25 $\mu g/m^3$

Blood Lead Level Testing must include:

- Hemoglobin & Hematocrit
- Red Cell Indices
- Peripheral smear morphology
- Urea Nitrogen
- Serum Creatinine
- Zinc Protoporphyrin
- Microscopic Urinalysis

Respirator Program (must use HEPA filters)

- See respirator section in Notebook

Basic Hygiene in areas above the PEL

- Prohibit the consumption or use of food, beverages (heat stress concern), tobacco, cosmetics
- Provide separate facilities for work and street clothing
- Enforce end of shift showers
- No clothing or equipment should go home
- Have all employees wash face and hands before eating, smoking, drinking, or applying cosmetics

Protective clothing - If above PEL, provide full body protection:

- Gloves, head covering, shoes or shoe coverings, faceshields
- Disposable protective clothing preferred
- Clothing should be removed in decontamination area only

Contaminated clothing

- Use labelled, closed containers
- Notify launderers of lead hazard
- Cleaning by blowing, shaking, beating, etc. is prohibited

Clothing Container Label:

CAUTION
Clothing Contaminated with Lead
Do Not Remove Dust by Blowing Or Shaking
Dispose of lead contaminated wash water in
Accordance with Local, State of Federal Regulations

Work Practices

- Don't use compressed air to clean surfaces
- When vacuuming, use HEPA filter
- No shoveling, or dry or wet sweeping (wet mopping preferred)

Signs where PEL is exceeded: **WARNING, Lead Work Area, Poison, No smoking or eating**

Medical Surveillance required if employee is exposed above the action level for more than 30 days/year
- No cost to employees
- Blood lead levels
  - Every 6 months if > action level
  - Every 2 months if > 40 $\mu g/dl$
  - Monthly if employee removed
- Notify employee of results within 5 days

Greater frequency needed in construction and lead abatement work (every month?)

Medical exams required for all workers above action level
- Annually for all with blood leads above 40
- Before employees work in areas above action level (pre-employment physical for all lead abatement workers should include baseline blood lead level.
- ASAP if symptoms appear, if employee wants medical advice on having children, if employee has trouble with respirator
- Exams required for all removed workers

Physician Responsibilities
- Employer must give Dr. a copy of the standard
- Exam should include detailed work and medical history, physical exam (includes teeth, gums, hematology, gastrointestinal, renal cardiovascular, neurological, pulmonary systems evaluation, blood pressure)
- Pregnancy testing or evaluation of male fertility must be available upon worker's request

Training (Critical Component)
- Annual training is required if above action level
- Training should include a copy of the standard, identification of the types of operations where action level is likely to be exceeded, proper respirator use, prohibition of chelation without a Dr.'s care, purpose and description of medical surveillance and permission to obtain blood samples, toxicity of lead and warning signs (symptoms) of poisoning.

Final Protective Control - Remove the worker with no loss of pay or benefits

Other health hazards on abatement sites
- strippers (methylene chloride, toluene, xylene, petroleum distillates, other organics, acids, caustics, other metals (chromates, cadmium), organic dyes, thermal decomposition products from heat gun)
- Noise

Records - Keep for 40 years or duration of employment plus 20 years
- Include dates of employment, number and duration of air samples taken, location, results, sampling and analytical methods used, evidence of method accuracy, name of employee, episodes of medical removal, physician keeps all medical record
- All records must be made available to OSHA or NIOSH

Commonwealth of Massachusetts

RECOMMENDED SAFE PRACTICES BULLETIN

LEAD

(lead paint removal)

Synonyms: White lead; lead flake; plumbum
C.A.S. Number: 7439-92-1
Chemical Formula: Pb
Date Completed: 4/90

HAZARD SUMMARY

- Inorganic lead can cause adverse health effects when inhaled or ingested.
- Ingestion may occur when eating, drinking or smoking with contaminated hands.
- Contaminated workclothes which are brought home can poison household members, particularly children.
- Lead can cause mood changes, headache, fatigue, muscle pain, weakness, abdominal cramping, and anemia.
- Permanent kidney, brain and other nerve damage may result from lead exposure.
- Exposure to lead can cause decreased fertility in men and women.
- Lead can damage the fetus.

GENERAL DESCRIPTION

Pure lead is a heavy, but soft and workable metal. It may be bluish-white or silver-grey. It is used in a wide variety of products, including storage batteries, ceramics, glass, plastics, and paints.

HEALTH HAZARD INFORMATION

Exposure to inorganic lead can occur by inhalation of dust and fumes or ingestion of lead dust. Ingestion can occur due to eating, drinking or smoking with contaminated hands. Contaminated workclothes are a source of lead toxicity in household members (particularly children).

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p6. Physical and Chemical Data
p7. Definitions

Department of Labor and Industries - Division of Occupational Hygiene
1001 Watertown Street, West Newton, MA 02165

PUBLICATION: #16,320-7 pgs.-100 cps-5/7/90 APPROVED BY: Ric Murphy, State Purchasing Agent

.CUTE (short-term) HEALTH EFFECTS

The early effects of lead toxicity are rather non-specific, with symptoms of irritability, depression, fatigue, decreased concentration, headache, loss of appetite, sleep disturbances, weakness, and musculo-skeletal pain.

The hallmark of acute lead toxicity is colic (severe stomach cramps). This may be accompanied by constipation or diarrhea.

CHRONIC (long-term) HEALTH EFFECTS

Prolonged or repeated exposure, even to low levels of lead, may result in an accumulation of lead in the body and may cause long-term health effects. Chronic exposure to lead can result in the acute health effects described above, although lead colic is generally less pronounced.

Although some effects of lead toxicity are reversible, chronic exposure can result in permanent damage to the nerves of the hands and feet, brain damage, gout, kidney failure, and possibly, high blood pressure. A rare manifestation of chronic lead exposure is a "lead line" which is a pigmented line on the gums.

Cancer Hazard: At present, there is inadequate evidence to state that lead is carcinogenic in humans. Some compounds of lead (lead acetate, lead subacetate, and lead phosphate) have been shown to be carcinogenic in rats and/or mice. These compounds should therefore be treated as carcinogens in humans.

Reproductive Hazard: Lead has been associated with a decrease in the fertility of men by causing decreased number and decreased motility of sperm and malformed sperm. These effects have been reported at blood levels of 40 to 50 mcg/dl. Lead can also cause impotence. High lead exposure in women has been associated with miscarriages, premature births, stillbirths and decreased fertility. Lead exposure of the pregnant mother at low blood levels (at about 10 to 15 mcg/dl and possibly lower) has been shown to interfere with normal brain development in the offspring. These levels are common in lead exposed workers. It is not known at this time whether lead causes other birth defects in humans. Lead, although not highly concentrated in breast milk, can be transferred to babies by that medium. Lead exposure in children can damage their nervous systems at levels lower than those that affect adults.

OCCUPATIONAL EXPOSURE LIMITS

The Massachusetts Deleading Regulations (454 CMR 22.00) regulate exposure to lead by requiring specific kinds of respirators for particular deleading methods. For sanding, scraping or use of a heat gun, the minimum required respirator is either a powered, air-purifying respirator with a high-efficiency (HEPA) filter, or a half-mask supplied-air respirator operated in the positive-pressure mode. When performing replacement or using caustics, the minimum required protection is a half-mask, air-purifying respirator with HEPA filters.

!EDICAL MONITORING

The Massachusetts Deleading Regulations require medical evaluation and testing for deleading workers. The medical evaluation must be performed prior to any deleading work. The medical evaluation must include: 1) a detailed work and medical history, with particular attention to past lead exposure, personal habits and past gastrointestinal, hematologic, renal, cardiovascular, reproductive and neurological problems; 2) a physical examination with particular attention to teeth, gums, hematologic, gastrointestinal, renal, cardiovascular, pulmonary and neurological systems; if a respirator is to be used, then fitness to wear a respirator should be assessed; 3) a blood pressure measurement; 4) blood tests for lead level, hemoglobin and hematocrit determinations, red cell indices, examination of peripheral smear morphology, zinc protoporphyrin, blood urea nitrogen (BUN), serum creatinine; 5) routine urinalysis with microscopic examination; and 6) any other test that the doctor considers necessary.

Blood testing must be conducted according to the following schedule: 1) for the first 6 months, every 2 months; and then at least every 3 months thereafter; 2) at least every two months if the lead level is between 40 mcg/100 g and 60 mcg/100 g of blood until 2 consecutive tests are below 40 mcg/100 g; 3) at least monthly while an employee is removed from work due to a high blood lead level (see below). The blood tests must include analysis of both lead and zinc protoporphyrin.

The deleading regulations require removal from exposure of a worker who has either: a confirmed blood lead level of 60 mcg/100 g or higher; or an average between 50 mcg/100 g and 59 mcg/100 g on three consecutive tests or over six months. Once removed, a worker may not return to a job with lead exposure until the blood lead is 40 mcg/100 g or less on two consecutive tests.

EMERGENCY INFORMATION

FIRST AID

Eye Contact: In case of eye contact, remove from exposure immediately. Rinse eyes for at least fifteen minutes, occasionally lifting upper and lower lids. See a physician if irritation persists or if vision is impaired.

Skin Contact: In case of skin contact, remove from exposure immediately. Remove contaminated clothing and wash skin with soap and water.

Treatment: Specific treatment is available for lead poisoning and must be administered by qualified medical personnel. Medicine, called "chelating agents," work by binding to and increasing the elimination of lead through the kidneys. These agents must not be given to workers currently working with lead (with the hope of preventing lead poisoning). Calcium disodium EDTA is the most common medicine used; British Anti-Lewisite (BAL), dimercaprol, and penicillamine can also be used.

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FIRE AND EXPLOSION

NFPA Rating: Not Available

Flash Point: Not Available
Extinguishing Media: Dry chemical, carbon dioxide
Flammable Limits: Not Available

Fire and Explosion Hazards: Lead and lead dust present a negligible fire hazard.

Fire Fighting Procedures: Do not use water. Employees who are expected to fight fires must be trained and equipped according to 29 CFR 1926.150.

SPILL, LEAK AND DISPOSAL PROCEDURES

Respiratory Protection: See "Protective Measures - Respiratory Protection"

Protective Equipment: Under the Massachusetts Deleading Regulations, employers are required to provide protective clothing to their employees. This clothing must include full-body coveralls, gloves, head covering, shoes or shoe coverings, and protective eyewear.

Clean-up Procedures: Clean-up of lead dust must be done using a vacuum equipped with a high-efficiency particulate air (HEPA) filter; dry sweeping is never acceptable. Surfaces should first be vacuumed, then washed with a solution of trisodium phosphate, then vacuumed again.

Disposal: Lead-contaminated waste must be placed in double plastic bags a minimum of 6 mils thick and then sealed before being removed from the work area. The waste must then be disposed of in accordance with federal, state and local regulations. A sample of the waste may have to be analyzed to determine the proper disposal method. The Massachusetts Department of Environmental Protection may provide additional information.

EMERGENCY INFORMATION SOURCES

CHEMTREC: (800) 424-9300
Poison Information Center: (800) 682-9211; 232-2120 (Boston area only)

PROTECTIVE MEASURES

ENGINEERING CONTROLS

Engineering controls are almost always the best way to control employee exposure to hazardous chemicals. Engineering controls may include local exhaust ventilation, enclosure of the process, general dilution ventilation and others. However, for some jobs (such as outside work, confined space entry, non-routine maintenance, emergencies, and jobs done while workplace controls are being installed), personal protective equipment may be appropriate.

RESPIRATORY PROTECTION

Only respirators that have been approved by NIOSH or MSHA for exposures to lead may be used. The employer should have a written program that includes respirator fit testing, regular training, maintenance, inspection, cleaning, and evaluation. Improper use of respirators can be dangerous.

Method of Deleading/Conditions of Use	Required Respirators[1]
caustics; replacement	Half-mask, air-purifying respirator equipped with high-effiency filters[2,3]
scraping; sanding; heat gun	Powered, air-purifying respirator with high-efficiency filters[3]; or Half-mask supplied-air respirator operated in positive-pressure mode.[2]
Firefighting	Full facepiece, self-contained breathing apparatus, operated in positive-pressure mode.

1. Respirators specified for higher concentrations can be used at lower concentrations of lead.
2. If eye irritation develops, full facepiece respirators should be used.
3. A high-efficiency particulate filter removes 99.97% of all particles at least 0.3 microns in diameter.

PROTECTIVE EQUIPMENT

Protective clothing should be worn - and disposed of by the employer - whenever the possibility exists for employee exposure to lead dust or fume. These particles may be brought home on workers' clothing, if uncovered, and cause health problems for the workers' families. Work clothing should be HEPA-vacuumed before removal. See "Emergency Information - Spill, Leak and Disposal Procedures".

STORAGE AND REACTIVITY INFORMATION

REACTIVITY

Stable under normal temperature and pressure.

INCOMPATIBILITIES

Avoid contact with oxidizing agents, such as perchlorates, peroxides, permanganates, chlorates and nitrates; chemically active metals, such as potassium, sodium and magnesium.

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition products are oxides of lead.

STORAGE

Lead should be stored away from high heat.

Lead, including waste materials, should always be stored in properly labelled containers. Labels should warn of the serious health hazards associated with exposure.

PHYSICAL AND CHEMICAL DATA

Boiling Point: 1740°C (3164°F)
Melting Point: 328°C (622°F)
Vapor Pressure: 1.77 mmHg at 1000°C
Specific Gravity (water=1): 11.3

Molecular Weight: 207
Solubility in Water: Insoluble
Evaporation Rate: Not Applicable
Vapor Density: Not Available

ADDITIONAL INFORMATION

Deleading in a residence or child care center may only be performed by licensed contractors and trained workers according to the Massachusetts Deleading Regulations: 454 CMR 22.00, and the Lead Poisoning Prevention and Control Regulations: 105 CMR 460.000. These regulations should be consulted for specific required work practices.

Workers with high blood lead levels require consultation with a physician. They should be immediately removed from exposure to lead. Occasionally, medical treatment may be required to lower blood lead levels, but this should only be performed in a hospital under the supervision of an occupational medicine physician.

DEFINITIONS

ACGIH is the American Conference of Governmental Industrial Hygienists. It recommends upper limits for exposure to workplace chemicals.

Action level is the amount of a chemical in the air above which OSHA-specified medical and air monitoring must be done.

A carcinogen is a substance that causes cancer.

The C.A.S. number is assigned by the Chemical Abstracts Service to identify a specific chemical.

The flash point is the temperature at which a liquid or solid gives off enough vapor to form a flammable mixture with air.

mg/m^3 means milligrams of a chemical in a cubic meter of air. It is a measure of how much of a chemical is in the air.

MSHA is the Mine Safety and Health Administration, the federal agency that regulates mining. It also evaluates and approves respirators.

A mutagen is a substance that causes a change in the genetic material in a body cell. Mutations can lead to birth defects, miscarriages, or cancer.

NFPA is the National Fire Protection Association. It classifies substances according to their fire and explosion hazard.

NIOSH is the National Institute for occupational Safety and Health. It tests equipment, evaluates and approves respirators, conducts studies of workplace hazards, and proposes standards to OSHA.

OSHA is the Occupational Safety and Health Administration, which adopts and enforces health and safety standards.

ppm means parts of a substance per million parts of air. It is a measure of how much gas or vapor is in the air.

A teratogen is a substance that causes birth defects by damaging the fetus.

The vapor pressure is a measure of how easily a liquid or a solid gives off vapors. A higher vapor pressure indicates a higher concentration of the substance in the air, and therefore increases the amount of it breathed in.

WHERE TO GO FOR ADDITIONAL INFORMATION

The following information is available from the Massachusetts Department of Labor and Industries.

RIGHT TO KNOW INFORMATION

The Right to Know Program can answer questions about particular chemicals, training, labeling, and other Right to Know matters. Violations of the Right to Know Law should be reported to the nearest office of the Department of Labor and Industries.

PUBLIC PRESENTATIONS

Presentations and educational programs on occupational health or the Right to Know Law can be given for labor unions, trade associations and other groups.

OCCUPATIONAL HEALTH AND SAFETY SERVICES

Upon receipt of a complaint, an inspection may be conducted at your workplace. An inspection may include a walk-through, air monitoring, and evaluation of existing conditions and controls. Complaints about workplace health and safety conditions may be reported to any office of the Department of Labor and Industries. Such complaints are maintained strictly confidential. In addition, employers may obtain free technical assistance in complying with OSHA standards and the Massachusetts Right to Know Law.

MEDICAL EVALUATION

The Division of Occupational Hygiene has the names of various occupational health services and occupational physicians who are board-certified. This information is available upon request.

MASSACHUSETTS DEPARTMENT OF LABOR AND INDUSTRIES

Division of Occupational Hygiene

West Newton (617) 969-7177

Division of Industrial Safety

Boston (617) 727-3460
Lawrence (617) 681-7798
New Bedford (617) 997-8263
Springfield (413) 734-1421
Worcester (617) 752-6504
Pittsfield (413) 445-4214

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EMPLOYER AND EMPLOYEE
GUIDELINES
FOR
HAZARD COMMUNICATION STANDARD

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29 CFR 1910.1200

PREPARED BY
DIVISION OF INDUSTRIAL SAFETY AND HEALTH
DEPARTMENT OF LABOR AND INDUSTRIES
VOLUNTARY SERVICES SECTION

P. O. BOX 207
OLYMPIA, WASHINGTON 98504

INTRODUCTION

This document was prepared to assist employees in implementing the new Hazard Communication Standards. The examples, checklists, and models are only guidelines for possible compliance methods and should not be considered as rigid formats.

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MODEL WRITTEN HAZARD COMMUNICATION PROGRAM

1. GENERAL INFORMATION

In order to comply with 29 CFR 1910.1200, Hazard Communication, the following written Hazard Communication Program has been established for

(Name of Company)____________________.

All work units of the company are included within this program. The written program will be available in the ___(Location)___ for review by any interested employee.

A. Container Labeling

The ________(person/position)________ will verify that all containers received for use will:

- Be clearly labeled as to the contents;
- Note the appropriate hazard warning;
- List the name and address of the manufacturer.

The ________(person/position)________ in each section will ensure that all secondary containers are labeled with either an extra copy of the original manufacturer's label or with the "central stores" generic labels which have a block for identity and blocks for the hazard warning. For help with labeling, please see our safety/health officer.

(If written alternatives to labeling of in-plant containers are used, add a description of the system used.)

The ________(position/person)________ will review the company's labeling system every ___(Time Period)___ and update as required.

B. Material Safety Data Sheets (MSDSs)

________(position/person)________ will be responsible for obtaining and maintaining the data sheet system for the company.

________(position/person)________ will review incoming data sheets for new and significant health/safety information. He/she will see that any new information is passed on to the affected employees.

(If alternatives to actual data sheets are used, provide a description of the system.)

Copies of MSDSs for all hazardous chemicals to which employees of this company may be exposed will be kept in ____(location)____ and ____(location)____.

MSDSs will be available to all employees in their work areas for review during each work shift. If MSDSs are not available or new chemicals in use do not have MSDSs, immediately contact the materials manager.

C. Employee Training and Information

________(person/position)________ is responsible for the employee training program. He/she will ensure that all elements specified below are carried out.

Prior to starting work, each new employee of ____(Name of Company)____ will attend a health and safety orientation and will receive information and training on the following:

- An overview of the requirements contained in the Hazard Communication Standard, 29 CFR 1910.1200;
- Chemicals present in their workplace operations;
- Location and availability of our written hazard program;
- Physical and health effects of the hazardous chemical;
- Methods and observation techniques used to determine the presence or release of hazardous chemicals in the work area;

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- How to lessen or prevent exposure to these hazardous chemicals through usage of control/work practices and personal protective equipment;
- Steps the company has taken to lessen/prevent exposure to these chemicals.
- Emergency procedures to follow if they are exposed to these chemicals;
- How to read labels and review MSDSs to obtain appropriate hazard information;
- Location of MSDS file and location of hazardous chemical list.

After attending the training class, each employee will sign a form to verify that they attended the training, received our written materials, and understood this company's policies on Hazard Communication. (This is an optional item which OSHA recommends for the employer to use to track employee training.)

Prior to a new chemical hazard being introduced into any section of this company, each employee of that section will be given information as outlined above. ______________ (person/position) ______________ is responsible for ensuring that MSDSs on the new chemical(s) are available.

2. LIST OF HAZARDOUS CHEMICALS

The following is a list of all known Hazardous Chemicals used by employees of ______________ (name of company) ______________. Further information on each noted chemical can be obtained by reviewing Material Safety Data Sheets located in ______________ (location) ______________ and ______________ (location) ______________.

Trade Name	Hazardous Chemical	MSDS Number or I.D.

3. HAZARDOUS NON-ROUTINE TASKS

Periodically, employees are required to perform hazardous non-routine tasks. Prior to starting work on such projects, each affected employee will be given information by their section supervisor about hazardous chemicals to which they may be exposed during such activity.

This information will include:

- Specific chemical hazards;
- Protective/safety measures the employee can take;
- Measures the company has taken to lessen the hazards, including ventilation, respirators, presence of another employee, and emergency procedures.

Examples of non-routine tasks performed by the employees of this company:

Task	Hazardous Chemicals

4. INFORMING CONTRACTORS

It is the responsibility of ______(person/position/department/etc.)______ to provide contractors (with employees) the following information:

- Hazardous chemicals to which they may be exposed while on the job site;
- Precautions the employees may take to lessen the possibility of exposure by usage of appropriate protective measures.

(______(position/person)______ will be responsible for contacting each contractor before work is started in the company to gather and disseminate any information concerning chemical hazards that the contractor is bringing to our workplace.)

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II.

SAMPLE WRITTEN HAZARD COMMUNICATION PROGRAM

1. GENERAL

The following written Hazard Communication Program has been established for the Lamination Department, ABC Boat Building Company, at Ourtown, WA.

The program will be available in the Lamination Department foreman's office for review by all employees.

A. Container Labeling

The department foreman will verify that all containers received for use by the Lamination Department will:

- be clearly labeled as to the contents;
- note the appropriate hazard warnings;
- list the name and address of the manufacturer.

No containers will be released for use until the above data is verified.

B. Material Safety Data Sheets

- The chief of the Procurement Department will be responsible for monitoring the MSDS system, including establishing and monitoring the procedures for obtaining MSDSs.
- Copies of MSDSs for all hazardous chemicals to which lamination employees may be exposed will be kept in the department foreman's office and the plant safety office.
- MSDSs will be available for review to all employees during each work shift. Copies will be available upon request to the foreman.

C. Employee Training and Information

(The Safety Officer will be responsible for developing, implementing, and monitoring the employee training and information program.)

Before starting work, each new employee will attend a safety class and be given a Hazardous Materials handbook which will have information on:

- chemicals and their hazards in their work areas;
- how to lessen or prevent exposure to these hazardous chemicals.

2. LIST OF HAZARDOUS CHEMICALS

The following is a list Hazardous Chemicals used in this Department. Further information on each hazardous chemical noted can be obtained by reviewing Material Safety Data Sheets in the foreman's office.

Trade Name	Hazardous Chemical	MSDS Number or I.D.
Good Catalyst	Methyl Ethyl Ketone Peroxide	3,000
Fiberglass	Fibrous Glass	128
Quick-Set Resin	Styrene	763
Boat Wash	Acetone	422
ABC Lacquer Wash	Xylene	509
XYZ Wax Solution	Styrene - Toulene	44

3. HAZARDOUS NON-ROUTINE TASKS

Approximately 3 to 4 times a year, Lamination Department employees are required to do tasks in confined spaces (i.e., tanks). Prior to starting work on such a space, each employee will be given information by the department foreman about hazards involved with activities in confined spaces.

This information will include:

- Specific chemical hazards;
- Protective/safety measures the employee can take;
- Measures the company has taken to lessen the hazards, including ventilation, respirators, presence of another employee, and emergency procedures.

It is section policy that no employee will begin work in a confined space or on any non-routine task without first receiving a safety briefing from the section foreman.

4. INFORMING CONTRACTORS

It is the responsibility of the Purchasing Department supervisor to provide contractors with the following information.:

- Plant safety rules;

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- hazardous chemicals to which they may be exposed while on the job site;

- Measures the contractor's employees may take to lessen the possibility of exposure.

- steps the company has taken to lessen risks;

- availability of MSDSs for all hazardous chemicals on file and where a copy may be obtained:

- procedures to follow if employees are ever exposed.

The department supervisor will also obtain from the contractor a list of hazardous chemicals that are to be brought into the plant. This list will be given to the safety officer for his/her evaluation and use.

MATERIAL SAFETY DATA SHEET

SUBSTANCE IDENTIFICATION

CAS NUMBER: 7439-92-1
RTECS NUMBER: OF7525000

SUBSTANCE: LEAD

TRADE NAMES/SYNONYMS:
C.I. PIGMENT METAL 4; C.I. 77575; LEAD FLAKE; KS-4; LEAD S 2; SI; SO; PLUMBUM; SO; Pb-S 100; LEAD ELEMENT; L-18; L-24; L-29; L-27; T-134; 40BP, 80BP, 100BP, 200BP, FP, SFP (SCM METAL PRODUCTS INC); Pb; OHS12510
CHEMICAL FAMILY: METAL

MOLECULAR FORMULA: Pb

MOLECULAR WEIGHT: 207.19

CERCLA RATINGS (SCALE 0-3): HEALTH=3 FIRE=0 REACTIVITY=0 PERSISTENCE=3
NFPA RATINGS (SCALE 0-4): HEALTH=U FIRE=0 REACTIVITY=0

COMPONENTS AND CONTAMINANTS

COMPONENT: LEAD PERCENT: 99.8
CAS# 7439-92-1

OTHER CONTAMINANTS: BISMUTH, COPPER, ARSENIC, ANTIMONY, TIN, IRON, ILVER, ZINC

EXPOSURE LIMITS:
LEAD, INORGANIC FUMES AND DUST (AS Pb):
50 UG/M3 OSHA 8 HOUR TWA
30 UG/M3 OSHA 8 HOUR TWA ACTION LEVEL
IF AN EMPLOYEE IS EXPOSED TO LEAD FOR MORE THAN 8 HOURS PER DAY THE FOLLOWING FORMULA IS USED:
MAXIMUM PERMISSIBLE LIMIT (IN UG/M3)= 400 DIVIDED BY HOURS WORKED IN THE DAY
0.15 MG/M3 ACGIH TWA
<0.10 MG/M3 NIOSH RECOMMENDED 10 HOUR TWA
0.1 MG/M3 DFG MAK TWA;
1.0 MG/M3 DFG MAK 30 MINUTE PEAK, AVERAGE VALUE, 1 TIME/SHIFT

MEASUREMENT METHOD: PARTICULATE FILTER; NITRIC ACID/HYDROGEN PEROXIDE; ATOMIC ABSORPTION SPECTROMETRY; (NIOSH VOL. III # 7082).

1 POUND CERCLA SECTION 103 REPORTABLE QUANTITY
SUBJECT TO SARA SECTION 313 ANNUAL TOXIC CHEMICAL RELEASE REPORTING
SUBJECT TO CALIFORNIA PROPOSITION 65 CANCER AND/OR REPRODUCTIVE TOXICITY WARNING AND RELEASE REQUIRMENTS- (FEBRUARY 27, 1987)

PHYSICAL DATA

ESCRIPTION: BLUISH-WHITE, SILVERY GRAY, HEAVY, MALLEABLE METAL

BOILING POINT: 3164 F (1740 C)   MELTING POINT: 622 F (328 C)

SPECIFIC GRAVITY: 11.3   VAPOR PRESSURE: 1.3 MMHG @ 970 C

SOLUBILITY IN WATER: INSOLUBLE

SOLVENT SOLUBILITY: SOLUBLE IN NITRIC ACID, HOT CONCENTRATED SULFURIC ACID

HARDNESS: 1.5 MOHS

FIRE AND EXPLOSION DATA

FIRE AND EXPLOSION HAZARD:
NEGLIGIBLE FIRE HAZARD IN BULK FORM; HOWEVER, POSSIBLE FIRE AND EXPLOSION HAZARD IN DUST FORM WHEN EXPOSED TO HEAT OR FLAME.
FIREFIGHTING MEDIA:
DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR REGULAR FOAM
(1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).

FOR LARGER FIRES, USE WATER SPRAY, FOG OR REGULAR FOAM
(1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).

FIREFIGHTING:
NO ACUTE HAZARD. MOVE CONTAINER FROM FIRE AREA IF POSSIBLE. AVOID BREATHING VAPORS OR DUSTS; KEEP UPWIND.

USE AGENTS SUITABLE FOR TYPE OF SURROUNDING FIRE. AVOID BREATHING HAZARDOU VAPORS, KEEP UPWIND.

TOXICITY

LEAD:
TOXICITY DATA: 10 UG/M3 INHALATION-HUMAN TCLO; 450 MG/KG/6 YEARS ORAL WOMAN TDLO; 1000 MG/KG INTRAPERITONEAL-RAT LDLO; MUTAGENIC DATA (RTECS); REPRODUCTIVE EFFECTS DATA (RTECS).
CARCINOGEN STATUS: HUMAN INADEQUATE EVIDENCE, ANIMAL SUFFICIENT EVIDENCE (IARC GROUP-2B FOR INORGANIC LEAD COMPOUNDS). RENAL TUMORS WERE PRODUCED IN ANIMALS BY LEAD ACETATE, SUBACETATE AND PHOSPHATE GIVEN ORALLY, SUBCUTANEOUSLY OR INTRAPERITONEALLY. NO EVALUATION COULD BE MADE OF THE CARCINOGENICITY OF POWDERED LEAD.
ACUTE TOXICITY LEVEL: INSUFFICIENT DATA.
TARGET EFFECTS: NEUROTOXIN; NEPHROTOXIN; TERATOGEN. POISONING MAY ALSO AFFECT THE BLOOD, HEART, ENDOCRINE, AND IMMUNE SYSTEMS.
AT INCREASED RISK FROM EXPOSURE: PERSONS WITH NERVOUS SYSTEM OR GASTROINTESTINAL DISORDERS, ANEMIA, OR CHRONIC BRONCHITIS.
ADDITIONAL DATA: SMOKING MAY RESULT IN HIGHER BLOOD LEAD LEVELS.

NEUROTOXIN/NEPHROTOXIN/TERATOGEN.

ACUTE EXPOSURE- ABSORPTION OF LARGE AMOUNTS OF LEAD MAY CAUSE A METALLIC TASTE, THIRST, A BURNING SENSATION IN THE MOUTH AND THROAT, SALIVATION, ABDOMINAL PAIN WITH SEVERE COLIC, VOMITING, DIARRHEA OF BLACK OR BLOODY STOOLS, CONSTIPATION, FATIGUE, SLEEP DISTURBANCES, DULLNESS, RESTLESSNESS, IRRITABILITY, MEMORY LOSS, LOSS OF CONCENTRATION, DELIRIUM, OLIGURIA OFTEN WITH HEMATURIA AND ALBUMINURIA, ENCEPHALOPATHY WITH VISUAL FAILURE, PARESTHESIAS, MUSCLE PAIN AND WEAKNESS, CONVULSIONS, AND PARALYSIS. DEATH MAY RESULT FROM CARDIORESPIRATORY ARREST OR SHOCK. SURVIVORS OF ACUTE EXPOSURE MAY EXPERIENCE THE ONSET OF CHRONIC INTOXICATION. LIVER EFFECTS MAY INCLUDE ENLARGEMENT AND TENDERNESS, AND JAUNDICE. THE FATAL DOSE OF ABSORBED LEAD IS APPROXIMATELY 0.5 GRAMS. PATHOLOGICAL FINDINGS INCLUDE GASTROINTESTINAL INFLAMMATION AND RENAL TUBULAR DEGENERATION.

CHRONIC EXPOSURE- PROLONGED OR REPEATED EXPOSURE TO LOW LEVELS OF LEAD MAY RESULT IN AN ACCUMULATION IN BODY TISSUES AND EXERT ADVERSE EFFECTS ON THE BLOOD, NERVOUS SYSTEMS, HEART, ENDOCRINE AND IMMUNE SYSTEMS, KIDNEYS, AND REPRODUCTION. EARLY STAGES OF LEAD POISONING, "PLUMBISM", MAY BE EVIDENCED BY ANOREXIA, WEIGHT LOSS, CONSTIPATION, APATHY OR IRRITABILITY, OCCASIONAL VOMITING, FATIGUE, HEADACHE, WEAKNESS, METALLIC TASTE IN THE MOUTH, GINGIVAL LEAD LINE IN PERSONS WITH POOR DENTAL HYGIENE, AND ANEMIA. LOSS OF RECENTLY DEVELOPED MOTOR SKILLS IS GENERALLY OBSERVED ONLY IN CHILDREN. MORE ADVANCED STAGES OF POISONING MAY BE CHARACTERIZED BY INTERMITTENT VOMITING, IRRITABILITY AND NERVOUSNESS, MYALGIA OF THE ARMS, LEGS, JOINTS AND ABDOMEN, PARALYSIS OF THE EXTENSOR MUSCLES OF THE ARMS AND LEGS WITH WRIST AND/OR FOOT DROP. SEVERE "PLUMBISM" MAY RESULT IN PERSISTENT VOMITING, ATAXIA, PERIODS OF STUPOR OR LETHARGY, ENCEPHALOPATHY WITH VISUAL DISTURBANCES WHICH MAY PROGRESS TO OPTIC NEURITIS AND ATROPHY, HYPERTENSION, PAPILLEDEMA, CRANIAL NERVE PARALYSIS, DELIRIUM, CONVULSIONS, AND COMA. NEUROLOGIC SEQUELAE MAY INCLUDE MENTAL RETARDATION, SEIZURES, CEREBRAL PALSY, AND DYSTONIA MUSCULORUM DEFORMANS. IRREVERSIBLE KIDNEY DAMAGE HAS BEEN ASSOCIATED WITH INDUSTRIAL EXPOSURE. REPRODUCTIVE EFFECTS HAVE BEEN EXHIBITED IN BOTH MALES AND FEMALES. PATERNAL EFFECTS MAY INCLUDE DECREASED SEX DRIVE, IMPOTENCE, STERILITY AND ADVERSE EFFECTS ON THE SPERM WHICH MAY INCREASE THE RISK OF BIRTH DEFECTS. MATERNAL EFFECTS MAY INCLUDE MISCARRIAGE AND STILLBIRTHS IN EXPOSED WOMEN OR WOMEN WHOSE HUSBANDS WERE EXPOSED, ABORTION, STERILITY OR DECREASED FERTILITY, AND ABNORMAL MENSTRUAL CYCLES. LEAD CROSSES THE PLACENTA AND MAY AFFECT THE FETUS CAUSING BIRTH DEFECTS, MENTAL RETARDATION, BEHAVIORAL DISORDERS, AND DEATH DURING THE FIRST YEAR OF CHILDHOOD. ANIMAL STUDIES INDICATE THAT REPRODUCTIVE EFFECTS MAY BE ADDITIVE IF BOTH PARENTS ARE EXPOSED TO LEAD.

METAL FUME FEVER:

ACUTE EXPOSURE- METAL FUME FEVER, AN INFLUENZA-LIKE ILLNESS, MAY OCCUR DUE TO THE INHALATION OF FRESHLY FORMED METAL OXIDE PARTICLES SIZED BELOW 1.5 MICRONS AND USUALLY BETWEEN 0.02-0.05 MICRONS. SYMPTOMS MAY BE DELAYED 4-12 HOURS AND BEGIN WITH A SUDDEN ONSET OF THIRST, AND A SWEET, METALLIC OR FOUL TASTE IN THE MOUTH. OTHER SYMPTOMS MAY INCLUDE UPPER RESPIRATORY TRACT IRRITATION ACCOMPANIED BY COUGHING AND A DRYNESS OF THE MUCOUS MEMBRANES, LASSITUDE AND A GENERALIZED FEELING OF MALAISE. FEVER, CHILLS, MUSCULAR PAIN, MILD TO SEVERE HEADACHE, NAUSEA, OCCASIONAL VOMITING, EXAGGERATED MENTAL ACTIVITY, PROFUSE SWEATING, EXCESSIVE URINATION, DIARRHEA AND PROSTRATION MAY ALSO OCCUR. TOLERANCE TO FUMES DEVELOPS RAPIDLY, BUT IS QUICKLY LOST. ALL SYMPTOMS USUALLY SUBSIDE WITHIN 24-36 HOURS.

CHRONIC EXPOSURE- THERE IS NO FORM OF CHRONIC METAL FUME FEVER, HOWEVER, REPEATED BOUTS WITH SYMPTOMS AS DESCRIBED ABOVE ARE QUITE COMMON. RESISTANCE TO THE CONDITION DEVELOPS AFTER A FEW DAYS OF EXPOSURE, BUT IS QUICKLY LOST IN 1 OR 2 DAYS.

FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. KEEP PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT:

ACUTE EXPOSURE- CONTACT WITH LEAD POWDERS OR DUST MAY BE IRRITATING. LEAD IS NOT ABSORBED THROUGH THE SKIN, BUT MAY BE TRANSFERRED TO THE MOUTH INADVERTENTLY BY CIGARETTES, CHEWING TOBACCO, FOOD, OR MAKE-UP.

CHRONIC EXPOSURE- PROLONGED OR REPEATED EXPOSURE TO THE POWDER OR DUST MAY RESULT IN DERMATITIS. SYSTEMIC TOXICITY MAY DEVELOP IF LEAD IS TRANSFERRED TO THE MOUTH BY CIGARETTES, CHEWING TOBACCO, FOOD, OR MAKE-UP.

FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED

AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

EYE CONTACT:

ACUTE EXPOSURE- LEAD DUST OR POWDERS MAY BE IRRITATING. METALLIC LEAD PARTICLES MAY CAUSE AN INFLAMMATORY FOREIGN BODY REACTION AND INJURY IS GENERALLY THOUGHT TO BE MECHANICAL AND NOT TOXIC.

CHRONIC EXPOSURE- PROLONGED EXPOSURE MAY CAUSE CONJUNCTIVITIS.

FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION:
NEUROTOXIN/NEPHROTOXIN/TERATOGEN.

ACUTE EXPOSURE- ABSORPTION OF LARGE AMOUNTS OF LEAD FROM THE INTESTINAL TRACT MAY CAUSE ALL THE SAME EFFECTS AS DETAILED IN ACUTE INHALATION. THE FATAL DOSE OF ABSORBED LEAD IS APPROXIMATELY 0.5 GRAMS.

CHRONIC EXPOSURE- PROLONGED OR REPEATED EXPOSURE TO LOW LEVELS OF LEAD MAY RESULT IN AN ACCUMULATION IN BODY TISSUES AND ADVERSE EFFECTS ON THE KIDNEYS, HEART AND BLOOD AND ON THE NERVOUS, REPRODUCTIVE, ENDOCRINE AND IMMUNE SYSTEMS AS DETAILED IN CHRONIC INHALATION.

FIRST AID- DO NOT INDUCE VOMITING. QUALIFIED MEDICAL PERSONNEL SHOULD REMOVE CHEMICAL BY GASTRIC LAVAGE OR CATHARSIS. ACTIVATED CHARCOAL IS USEFUL. GET MEDICAL ATTENTION IMMEDIATELY.

ANTIDOTE:
THE FOLLOWING ANTIDOTE HAS BEEN RECOMMENDED. HOWEVER, THE DECISION AS TO WHETHER THE SEVERITY OF POISONING REQUIRES ADMINISTRATION OF ANY ANTIDOTE AND ACTUAL DOSE REQUIRED SHOULD BE MADE BY QUALIFIED MEDICAL PERSONNEL.
FOR LEAD POISONING:
INITIATE URINE FLOW FIRST. GIVE 10% DEXTROSE IN WATER INTRAVENOUSLY, 10-20 ML/KG BODY WEIGHT, OVER A PERIOD OF 1-2 HOURS. IF URINE FLOW DOES NOT START, GIVE MANNITOL, 20% SOLUTION, 5-10 ML/KG BODY WEIGHT INTRAVENOUSLY OVER 20 MINUTES. FLUID MUST BE LIMITED TO REQUIREMENTS AND CATHERTIZATION MAY BE NECESSARY IN COMA. DAILY URINE OUTPUT SHOULD BE 350-500 ML/M2/24 HOURS. EXCESSIVE FLUIDS FURTHER INCREASE CEREBRAL EDEMA.
FOR ADULTS WITH ACUTE ENCEPHALOPATHY, GIVE DIMERCAPROL, 4 MG/KG, INTRAMUSCULARLY EVERY 4 HOURS FOR 30 DOSES. BEGINNING 4 HOURS LATER, GIVE CALCIUM DISODIUM EDETATE AT A SEPERATE INJECTION SITE, 12.5 MG/KG INTRAMUSCULARLY EVERY 4 HOURS AS A 20% SOLUTION, WITH 0.5% PROCAINE ADDED, FOR A TOTAL OF 30 DOSES. IF SIGNIFICANT IMPROVEMENT HAS NOT OCCURRED BY THE FOURTH DAY, INCREASE THE NUMBER OF INJECTIONS BY 10 FOR EACH DRUG.
FOR SYMPTOMATIC ADULTS, THE COURSE OF DIMERCAPROL AND CALCIUM DISODIUM EDETATE CAN BE SHORTENED OR CALCIUM DISODIUM EDETATE ONLY CAN BE GIVEN IN A DOSAGE OF 50 MG/KG INTRAVENOUSLY AS 0.5% SOLUTION IN 5% DEXTROSE IN WATER OR NORMAL SALINE BY INFUSION OVER NOT LESS THAN 8 HOURS FOR NOT MORE THAN 5 DAYS. FOLLOW WITH PENICILLAMINE, 500-750 MG/DAY, ORALLY FOR 1-2 MONTHS OR UNTIL URINE LEAD LEVELS DROPS BELOW 0.3 MG/24 HOURS (DREISBACH, HANDBOOK OF POISONING, 12TH ED.). ANTIDOTE SHOULD BE ADMINISTERED BY QUALIFIED MEDICAL PERSONNEL.

REACTIVITY

REACTIVITY:
STABLE UNDER NORMAL TEMPERATURES AND PRESSURES.

INCOMPATIBILITIES:
LEAD:
  AMMONIUM NITRATE: VIOLENT OR EXPLOSIVE REACTION.
  CHLORINE TRIFLUORIDE: VIOLENT REACTION.
  DISODIUM ACETYLIDE: TRITURATION IN MORTAR MAY BE VIOLENT AND LIBERATE CARBON.
  HYDROGEN PEROXIDE (52% OR GREATER): VIOLENT DECOMPOSITION.
  HYDROGEN PEROXIDE (60% SOLUTION) AND TRIOXANE: SPONTANEOUSLY DETONABLE.
  METALS (ACTIVE): INCOMPATIBLE.
  NITRIC ACID: LEAD-CONTAINING RUBBER MAY IGNITE.
  OXIDIZERS (STRONG): INCOMPATIBLE.
  SODIUM AZIDE: FORMS LEAD AZIDE AND COPPER AZIDE IN COPPER PIPE.
  SODIUM CARBIDE: VIGOROUS REACTION.
  SULFURIC ACID (HOT): REACTS.
  ZIRCONIUM-LEAD ALLOYS: IGNITION ON IMPACT.

DECOMPOSITION:
THERMAL DECOMPOSITION PRODUCTS ARE TOXIC OXIDES OF LEAD.

POLYMERIZATION:
HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES.

STORAGE AND DISPOSAL

OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY.

STORAGE

STORE AWAY FROM INCOMPATIBLE SUBSTANCES.

DISPOSAL

LEAD - REGULATORY LEVEL: 5.0 MG/L (TCLP)
MATERIALS WHICH CONTAIN THE ABOVE SUBSTANCE AT OR ABOVE THE REGULATORY LEVEL MEET THE EPA CHARACTERISTIC OF TOXICITY, AND MUST BE DISPOSED OF IN ACCORDANCE WITH 40 CFR PART 262. EPA HAZARDOUS WASTE NUMBER D008.

CONDITIONS TO AVOID

MAY BURN BUT DOES NOT IGNITE READILY. PREVENT DISPERSION OF DUST IN AIR. NOT ALLOW SPILLED MATERIAL TO CONTAMINATE WATER SOURCES.

SPILL AND LEAK PROCEDURES

WATER SPILL:
THE CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (PROPOSITION 65) PROHIBITS CONTAMINATING ANY KNOWN SOURCE OF DRINKING WATER WITH SUBSTANCES KNOWN TO CAUSE CANCER AND/OR REPRODUCTIVE TOXICITY.

OCCUPATIONAL SPILL:
DO NOT TOUCH SPILLED MATERIAL. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. FOR SMALL SPILLS, TAKE UP WITH SAND OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL. FOR SMALL DRY SPILLS, WITH A CLEAN SHOVEL PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER. MOVE CONTAINERS FROM SPILL AREA. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. KEEP UNNECESSARY PEOPLE AWAY. ISOLATE HAZARD AREA AND DENY ENTRY.

RESIDUE SHOULD BE CLEANED UP USING A HIGH-EFFICIENCY PARTICULATE FILTER VACUUM.

REPORTABLE QUANTITY (RQ): 1 POUND
THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 304 REQUIRES

THAT A RELEASE EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY FOR THIS SUBSTANCE BE IMMEDIATELY REPORTED TO THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STATE EMERGENCY RESPONSE COMMISSION (40 CFR 355.40). IF THE RELEASE OF THIS SUBSTANCE IS REPORTABLE UNDER CERCLA SECTION 103, THE NATIONAL RESPONSE CENTER MUST BE NOTIFIED IMMEDIATELY AT (800) 424-8802 OR (202) 426-2675 IN THE METROPOLITAN WASHINGTON, D.C. AREA (40 CFR 302.6).

PROTECTIVE EQUIPMENT

VENTILATION:
PROVIDE LOCAL EXHAUST VENTILATION SYSTEM TO MEET PUBLISHED EXPOSURE LIMITS.

LEAD (ELEMENTAL, INORGANIC, AND SOAPS):
VENTILATION SHOULD MEET THE REQUIREMENTS IN 29 CFR 1910.1025(E).

RESPIRATOR:
THE FOLLOWING RESPIRATORS ARE THE MINIMUM LEGAL REQUIREMENTS AS SET FORTH BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION FOUND IN 29 CFR 1910, SUBPART Z.
RESPIRATORY PROTECTION FOR LEAD AEROSOLS

AIRBORNE CONCENTRATION OF LEAD OR CONDITION OF USE	REQUIRED RESPIRATOR
NOT IN EXCESS OF 0.5 MG/M3 (10X PEL)	HALF-MASK, AIR PURIFYING RESPIRATOR EQUIPPED WITH HIGH-EFFICIENCY FILTERS.
NOT IN EXCESS OF 2.5 MG/M3 (50X PEL)	FULL FACEPIECE, AIR-PURIFYING RESPIRATOR WITH HIGH EFFICIENCY FILTERS.
NOT IN EXCESS OF 50 MG/M3 (1000X PEL)	ANY POWERED AIR-PURIFYING RESPIRATOR WITH HIGH EFFICIENCY FILTERS; OR HALF-MASKSUPPLIED-AIRRESPIRATOR OPERATED IN POSITIVE-PRESSURE MODE.
NOT IN EXCESS OF 100 MG/M3	SUPPLIED-AIR RESPIRATORS WITH FULL FACEPIECE, HOOD OR HELMET OR SUIT, OPERATED IN POSITIVE PRESSURE MODE.
GREATER THAN 100 MG/M3, UNKNOWN CONCENTRATIONS OR FIREFIGHTING	FULL FACEPIECE, SELF-CONTAINED BREATHING APPARATUS OPERATED IN POSITIVE-PRESSURE MODE.

(RESPIRATORS SPECIFIED FOR HIGHER CONCENTRATIONS CAN BE USED AT LOWER CONCENTRATIONS OF LEAD).

(FULL FACEPIECE IS REQUIRED IF THE LEAD AEROSOLS CAUSE EYE OR SKIN IRRITAT AT THE USE CONCENTRATIONS.)
(A HIGH EFFICIENCY PARTICULATE FILTER MEANS 99.97% EFFICIENT AGAINST 0.3 MICRON PARTICLES.)

THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIOSH POCKET GUIDE TO CHEMICAL HAZARDS OR NIOSH CRITERIA DOCUMENTS.
THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE AND BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION.

LEAD, INORGANIC FUMES AND DUSTS (AS Pb):

0.50 MG(Pb)/M3- ANY SUPPLIED-AIR RESPIRATOR.
ANY AIR-PURIFYING RESPIRATOR WITH A HIGH-EFFICIENCY PARTICULATE FILTER.
ANY SELF-CONTAINED BREATHING APPARATUS.

1.25 MG(Pb)/M3- ANY POWERED AIR-PURIFYING RESPIRATOR WITH A HIGH-EFFICIENCY PARTICULATE FILTER.
ANY SUPPLIED-AIR RESPIRATOR OPERATED IN A CONTINUOUS FLOW MODE.

2.50 MG(Pb)/M3- ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR WITH A HIGH-EFFICIENCY PARTICULATE FILTER.
ANY POWERED AIR-PURIFYING RESPIRATOR WITH A TIGHT-FITTING FACEPIECE AND A HIGH-EFFICIENCY PARTICULATE FILTER.
ANY SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE.
ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE.
ANY SUPPLIED-AIR RESPIRATOR WITH A TIGHT-FITTING FACEPIECE OPERATED IN A CONTINUOUS FLOW MODE.

50.0 MG(Pb)/M3- ANY SUPPLIED-AIR RESPIRATOR OPERATED INA PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.

100.0 MG(Pb)/M3- ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE AND OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.

ESCAPE- ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR WITH A HIGH-EFFICIENCY PARTICULATE FILTER.
ANY APPROPRIATE ESCAPE-TYPE SELF-CONTAINED BREATHING APPARATUS.

FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:
ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.
ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

CLOTHING:
EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT REPEATED OR PROLONGED SKIN CONTACT WITH THIS SUBSTANCE.

LEAD (ELEMENTAL, INORGANIC, AND SOAPS):
PROTECTIVE CLOTHING SHOULD MEET THE REQUIREMENTS FOR PROTECTIVE WORK CLOTHING AND EQUIPMENT IN 29 CFR 1910.1025(G).

GLOVES:
EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE.
LEAD (ELEMENTAL, INORGANIC & SOAPS):
PROTECTIVE GLOVES SHOULD MEET THE REQUIREMENTS FOR PROTECTIVE WORK CLOTHING AND EQUIPMENT IN 29 CFR 1910.1025(G).

EYE PROTECTION:
EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES TO PREVENT EYE CONTACT WITH THIS SUBSTANCE.

EMERGENCY EYE WASH: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

LEAD (ELEMENTAL, INORGANIC, AND SOAPS):
PROTECTIVE EYE EQUIPMENT SHOULD MEET THE REQUIREMENTS FOR PROTECTIVE WORK CLOTHING AND EQUIPMENT IN 29 CFR 1910.1025(G).

SAFETY HAZARDS OF ABATEMENT SITES

SAFETY AND HEALTH CONSIDERATIONS

Objective: Provide an overview of non-lead related safety and health problems encountered during lead paint removal projects and provide information necessary to manage these problems.

Learning Task: Information in this section should enable participants to:

- Identify, eliminate, avoid, or safely work around potential electrical safety hazards.
- Become familiar with proper procedures and equipment used during lead paint removal to avoid hazardous conditions and work practices.
- Identify, eliminate, avoid, or safely work around potential fire/life hazards.
- Establish effective emergency action plans/procedures specific to the lead paint removal project.
- Identify and eliminate hazards associated with ladders, scaffolds, walking and working surfaces.

SAFETY AND HEALTH CONSIDERATIONS

INTRODUCTION

Lead paint removal projects are becoming increasingly technically sophisticated as the body of knowledge grow regarding effective control methods. A great deal of attention has been given to protecting workers and confining the spread of contamination. The extra burden of dealing with the lead hazard can easily create situations where the basic and more immediate safety hazards can be overlooked.

Safety hazards can manifest if good work practices are not followed. Potential hazards include: electrical considerations, ladders and scaffolding, working surfaces, fire consideration, heat related disorders and body protection. The methods used in a typical lead paint removal project add new dimensions to the task of providing a safe working environment.

ELECTRICAL SAFETY CONSIDERATIONS

THE HAZARD

One of the most common hazards, and one that gives the least warning, is electrical current. Incorrect wiring, improper grounding, and lack of proper shielding results in approximately 1,000 people per year being electrocuted nationwide. Many of these fatalities result from contact with only 120 volts a.c.

Three factors determine the severity of electrical shock. These are:

- The amount of current flowing through the body
- The path of the current flowing through the body
- The time the current is allowed to follow this path

These factors vary greatly. The path of the current depends upon the points of contact. Most often the path is from the hands, through the body, and out the feet. The amount of electrical resistance determines in part the amount of current flow. Moist skin or damp conditions greatly reduce electrical resistance and significantly increase a person's risk of serious injury if he comes in contact with a current source. In addition to the obvious shock potential, many deaths result from falls after a non-fatal electrical shock.

Pre-Work Considerations/Identifying The Hazards

During the pre-bid inspection, preparation of the work site, and during lead paint removal, there are potential electrical hazards that can be identified and eliminated. Examples include:

- Identification of wiring faults in the building: Including open ground paths, reverse wiring polarity, and hot-neutral or hot-ground wires reversed. These common faults can easily by identified with a volt/ohm meter or with plug-in type circuit testers and should be corrected prior to the start up. This is particularly important if these circuits will be used to provide power inside the removal area.

- Uninsulated or exposed and energized wiring or equipment: Lead removal jobs are often part of renovation or remodeling projects. Overhead lighting is often removed for cleaning. Damaged electrical fixtures may not have been repaired by the building owner. All of these things may be combined to create sources of contact with energized electrical circuits. When possible, circuits that will not be used during removal efforts should be turned off and locked out. Wiring and electrical connections should always be considered energized until tested and proven otherwise. Unenclosed wiring junctions in overhead areas are a particularly likely point of contact for removal workers.

- Lead paint removal projects where the building remains occupied: This can present problems where electrical circuits or control panels that are located inside the removal area and that control other parts of the building must remain energized.

- Providing power inside the removal area: This can create hazards not associated with the building systems. Since OSHA considers renovation projects under the 29 CFR 1926 Construction Industry Safety and Health Standards, there are special requirements for supplying temporary power. This may be done by supplying power through Ground Fault Circuit Interrupters (GFCI) or having an Assured Equipment Grounding Program in effect. Use of GFCIs to protect all circuits provides the safest power source since any significant current leakage will trip the circuit. An assured equipment grounding program requires regular inspection of all tools, cords, and electrical devices with written documentation maintained.

- Commonly found electrical devices on lead paint removal projects are: Lights, vacuum cleaners, heat guns, drills, saws, heaters, sump pumps, and often, radios. All of these should be inspected regularly for damage, proper grounding, and integrity of insulation.

ELECTRICAL SAFETY REVIEW

- Supply workers with heavy insulated rubber boots and/or gloves when working around energized wiring or equipment.

- Ensure all electrical equipment in use is properly grounded before the job starts. This means checking outlets, wiring, extension cords and power pickups. Check for the ground-pin on plugs. These checks should also be made while setting up and regularly during the job.

- Avoid stringing electrical wiring across floors. Elevate wiring if possible to keep if from being a trip hazard and damaged from foot traffic and rolling scaffolds.

- Always perform a pre-work walk-through to identify potential sources of electrical hazards.

- Utilize stable wooden or fiberglass ladders - not metal. Metal ladders are a good conductor of electricity if a worker contacts an open electrical source.

- Determine operating voltages of equipment and lines before working on or near energized parts.

- Electrical equipment and lines should be considered energized unless tested and determined otherwise.

- Energized parts must be insulated or guarded from employee contact and any other conductive object.

- Extension cords used with portable electric tools and appliances must be the three-wire grounded type and connected to a GFI (Ground Fault Interrupter) circuit.

- Extensions cords:

    - Should be protected from accidental damage.

    - Should not be fastened with staples, hung from nails, or suspended by wire (tape is an acceptable alternative).

- Portable electric handtools should meet the following requirements:

    - Should be equipped with a 3-wire cord having a ground wire permanently fixed to the tool frame: or

    - Should be of double-insulated type and labeled as such.

- For circuits over 600 volts, if electrical disconnects are not visible and open or locked out, the following requirements should be met:

- Circuits to be de-energized are clearly identified and isolated from all energy sources.
- Notification received from a designated employee that all switches and disconnectors that could supply energy have been de-energized, locked out, and plainly tagged to show men at work.
- Visual inspections and tests made to assure de-energizing of lines and equipment.
- Protective grounds applied to disconnected lines or equipment.
- Separate tag and lockout attached for each crew requiring de-energizing of same line or equipment.
- Tags and lockouts should not be removed from completed work until designated employees report that all crew members are clear and protective grounds they installed have been removed.

LADDERS/SCAFFOLDING/WALKING - WORKING SURFACES (INSPECTIONS AND PROPER USE)

Lead paint removal projects always present risks to workers from falls, slips, or trips. The nature of the task necessitate the use of scaffolding and ladders.

Ladders

The following items should be checked on a regular basis:

- Ladders are always maintained in good condition.
- Complete inspections are done periodically.
- No improvised repairs are made.
- Defective ladders are not used.
- Safety feet spreaders and other components of ladders are in good condition.
- Movable parts operate freely without binding or undue play.
- Rungs are kept free of grease or oil.
- Ladders are not used for other than their intended purpose. (Ladders should not be used as a platform or walkboard.)
- Extension type ladders should be used with a 1-4 lean ratio (1 foot out for every 4 feet of elevation).
- Step ladders should only be used when fully opened.
- The user faces the ladder while going up and down.
- Tops are not used as steps. If needed, get a longer ladder.
- Bracing on the back legs is not used for climbing.
- Portable ladders are used by one person at a time.
- Ladders are secured to prevent displacement during use.
- All ladders have well designed safety shoes.
- Hook or other type ladders used in structures are positively secured.
- Wood or fiberglass ladders should be selected to avoid electrical hazards of metal ladders.

Scaffolding

Most lead paint projects will involve the use of scaffolding. Proper set up, regular inspection, and basic maintenance should not be overlooked. In many removal projects, manually propelled mobile scaffolding provides a convenient and efficient work platform. OSHA standards require that when free standing mobile scaffolding is used, the height shall not exceed four times the minimum base dimension. This requirement is based on the fact that scaffolding is easily turned over. Since relatively little force is required to tip a scaffold, it becomes important to make sure that wheels on mobile scaffolds move freely and are in good repair. If rented scaffolding is used, all components should be inspected prior to accepting it. Wheels should turn freely and be lubricated. All components such as cross bracing, railings, pin connectors, planking or scaffold grade lumber should be available before the units are assembled. When workers will be riding mobile scaffolding the base dimension should be at least one half of the height. Workers should be careful to keep debris and obstacles off the floor where mobile scaffolds will be used. If a wheel catches debris on the floor when the unit is moved, additional force will be required to move it. This additional force may be all that is needed to turn the unit over.

Guardrails should always be installed on scaffolding because workers can easily step off the edge of an unprotected scaffold. OSHA requires that guardrails be used when scaffolding is from 4 to 10 feet tall and with walkboards less than 45 inches wide. Scaffolding 10 feet or higher must have guardrails.

Planking used on scaffold should not extend farther than 12" over the edges and should always be secured to the frame with cleats to prevent slippage.

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In summary:

- Consider the height of the work, equipment in use, and numerous trip hazards. Take a look at your "walking surfaces".
- Inspect ladders and scaffolding for condition. Ensure railings are adequate on scaffolds.
- Use care around air lines and electrical cords.
- Suspend electrical lines and cords when possible using tape.
- No running, jumping or horseplay in work areas should ever be allowed.
- Minimize debris on floors.
- Pick up tools, scrapers, etc.

FIRE CONSIDERATIONS

A few of the fire safety features to be concerned with are exits, travel distances, emergency lighting, and alarm systems.

Sealing off an area and blocking entrance/exit openings conflict with OSHA, NFPA, and local fire code requirements. Emergency plans should be developed to include alternative exits in emergency situations and these must be familiar to all personnel entering the work area.

Perform a pre-work survey to determine potential fire hazards, sources of ignition, hot-spots, and location of exits. Coordinate this with the number of workers to be in the area, the square footage, and the types and amount of combustible/flammable materials that will remain on site.

Some protective clothing will burn and melt quickly. It can shrink, adhere to skin and drip as it burns. Heavy black smoke is a combustion by-product.

To avoid fire problems in lead paint removal areas:

- Ensure all sources of ignition are removed. Be sure that gas and other fuel sources are cut off and that pilot lights in boilers, heaters, hot water tanks, compressors, etc., are extinguished.
- Do not allow lighters, matches, etc., into the work area. Strictly enforce no smoking, eating, or drinking inside the work area.
- When using an oxygen/acetylene torch to cut pipe, etc., post a fire watch with an appropriate fire extinguisher such as pressurized water.
- When using a cutting torch, know what is on the other side of the wall and below the floor. Use sheet metal or a treated tarp to catch sparks.
- Reduce the amount of flammable/combustible materials inside a space to a minimum. This includes removal of any chemicals, flammable liquids, heat sensitive materials, etc.
- Mark exits from work area and post directional arrows when exits are not visible from remote work areas.
- Keep trash and debris to a minimum.
- If the work area is large and many workers are present, several emergency exits may be needed. Choose exits that are locked from outside but can be opened from the inside. A daily inspection should be conducted to insure secondary exits are not blocked.
- Lighting of exits and exit routes should be provided.
- Be alert for flammable vapors (solvents such as naphtha, toluene, xylol, etc.).

- A telephone should be available at all times for notification of authorities in an emergency.

- *Post local Fire Department and Rescue Squad phone numbers. Advise them of the* operations in progress.

- Ensure that you have a monitor outside at all times trained in emergency procedures. Someone should be trained in first aid, and in the treatment of heat stress.

EMERGENCY PROCEDURES

Effective December 11, 1980, the Occupational Safety and Health Administration revised its fire safety standards. OSHA now requires a written emergency action plan and fire prevention plan. The new requirements are detailed in 29 CFR 1910.38. Briefly, the essential items of the plans should include:

- The manner in which emergencies are announced.
- Emergency escape procedures and emergency escape routes.
- Procedures for employees who must remain to operate critical plant operations which may take time to shut down.
- Procedures to account for all employees after evacuation.
- Rescue and medical duties.
- Names and/or job titles of people to be contacted for additional information.
- A list of the major workplace fire hazards.
- Names and/or job titles of people responsible for maintenance of fire prevention equipment.
- Names and/or job titles of people responsible for the control of fuel source hazards.

Establish a system for alerting workers of an emergency or other problem that may require evacuation of the work area. A compressed air boat horn provides an effective alarm that can be heard and does not rely on a power source. All persons entering the work area should be familiar with the evacuation alarm signal and primary and secondary exits. A simple floor plan drawing of the work area should be posted to familiarize persons entering the work area with the site and location of exits.

Written emergency procedures should cover procedures to be used in case of the following: fire, which may include heavy smoke conditions; power failure; compressor failure with the use of air-supplied respirators; accident; or employee injury.

MEDICAL SERVICES AND FIRST AID

The OSHA Lead Standard requires that all employees who are exposed to lead at or above the action level or who are required to wear a negative pressure respirator be given a complete physical examination. The main objective of the examination is to determine that the employee is medically qualified to wear a respirator before performing removal activities. The examining physician or clinic should be aware that respirators may be worn under hot, adverse conditions. During warm months, heat exhaustion and heat stroke are serious hazards faced by workers, particularly those not acclimated to the heat.

Heat-Related Disorders

It is important for the employer to provide training in recognition and awareness of symptoms and effects of heat stress and heat stroke. It is also important to stress the importance of drinking water and maintaining proper electrolyte levels.

HEAT EXHAUSTION

Symptoms:

- Fatigue, weakness, profuse sweating, normal temperature, pale clammy skin, headache, cramps, vomiting, fainting.

Treatment:

- MEDICAL ALERT
- Remove worker from hot area.
- Have worker lay down and raise feet.
- Apply cool wet cloths.
- Loosen or remove clothing.
- Allow small sips of water or Gatorade if victim is vomiting.

Prevention:

- Frequent breaks away from the heat.
- Increase fluid intake.
- Allow workers to become acclimatized to heat.
- External cooling (vortex cooling, ice vests).

Causes:

- High air temperature.
- High humidity.
- Low air movement.
- Hard work.
- Not enough breaks away from the heat.
- Insufficient fluid intake.
- Full body clothing.
- Workers not acclimated to heat.

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HEAT STROKE

Symptoms:

- Dizziness, nausea, severe headache, hot dry skin, confusion, collapse, delirium, coma, and death.

Treatment:

- MEDICAL EMERGENCY
- Remove worker from hot area.
- Remove clothing.
- Have them lay down.
- COOL THE BODY (SHOWER, COOL WET CLOTHS)
- Do not give stimulants.

Causes:

- High air temperature.
- High humidity.
- Low air movement.
- Hard work.
- Not enough breaks away from the heat.
- Not drinking enough water.
- Full body clothing.
- Workers not acclimated to heat.

Telephone numbers of the physicians, hospitals, and ambulances should be conspicuously posted for emergency use.

Means should be available for prompt transport of an injured person to a physician or hospital, and there should be a telephone with emergency numbers available.

Before beginning the project, provisions should be made for prompt medical attention in case of serious injury or other medical emergency.

Someone trained in basic first-aid should always be on the abatement project.

When airline respiratory protection is used, it is important that the outside monitor be familiar with the system and any problems associated with breathing air. Carbon monoxide poisoning is perhaps the most important of these problems. It is important to note that these symptoms are similar and may be confused with those from heat stress.

CARBON MONOXIDE POISONING

Symptoms:

- Dizziness, nausea, headache, drowsiness, vomiting, collapse, coma, and death (note similarity of symptoms to heat stroke).

Sources:

- Oil Lubricated Compressor
- Internal Combustion Engine
- Open Flame and Fire
- Unvented Gas
- Kerosene Heaters

Description of CO:	○ Colorless, Odorless and Tasteless
Limits:	○ 35 ppm (Time Weighted Average over 8 hours)
	○ 250 ppm (Short Term Exposure Limit - 15 minutes)
	○ 20 ppm (Grade D breathing air for airline respirators) (Maximum allowable concentration)

If these symptoms are observed, those persons should immediately be brought into fresh air and medical attention should be provided.

Monitor any prescription or over the counter medicines being used by employees. These may cause an adverse reaction when used by persons under strenuous conditions common to removal work.

BODY PROTECTION

The following guidance should be used when addressing whole body protection for lead paint abatement personnel:

- Provide and require use of special whole body clothing, including shoes, for any employee exposed to airborne concentrations of lead.
- Provide work gloves as part of whole body protection to employees exposed to lead.
- Protective hardhats must be worn on a jobsite where there is exposure to falling objects, electric shock or burn.
- Provide, require the use of, and maintain in sanitary and reliable condition protective equipment necessary to protect any employee from any hazard which could cause injury or illness.
- Wear non-fogging face shields or goggles for operations involving potential eye injury. Full face respirators are most effective (if non-fogging).
- Arrange work so workers do not have to reach extensively overhead. Get them up to the job!
- Instruct your workers on proper lifting methods. Nothing will take the profit out of a job faster than a serious back injury.
- Use the "buddy system" for lifting and moving heavy objects.
- Use hand carts or rolling pallets when possible. Keep manual material handling to a minimum.

MISCELLANEOUS

OSHA requires that a poster be permanently posted on the job site notifying workers of their rights under the ace. This poster, commonly known as the "Job Safety and Health Poster," is available from OSHA offices.

When an employer has 11 or more employees, he is required to maintain a record of injuries and illnesses that occur. Part of this requirement is met by filling out accident reports required by Worker's Compensation insurance carriers. The other requirement is maintenance of the "Log and Summary of Occupational Illnesses and Injuries – OSHA Log 200". These forms and a booklet titled, "What Every Employer Needs to Know About OSHA Recordkeeping," is available from OSHA and provides information on these recordkeeping requirements.

RESPIRATOR PROGRAM

Respiratory Protection for Lead Based Paint Abatement Workers

OSHA 29 CFR 1910.1025(f)

- May be used as a guideline for lead abatement operations:
    - * Respirators must be provided at no cost to employees.
    - * Respirators may be used during time necessary to install engineering controls.
    - * Employers may not require employees to wear negative pressure respirators for more than 4.4 hours per day. (Note: currently not enforced)
    - * Respirators selected must meet NIOSH/MSHA criteria
    - * Fit testing must be performed for all negative pressure respirators (qualitative tests used for half masks only)
    - * If employee(s) experience difficulties, a medical examination must be performed. (Note: 29 CFR 1910.134 requires employee evaluation by physician prior to respirator assignment.)
    - * Employer must have a written Respiratory Protection Program
- Permissible Exposure Limit (PEL) = 0.05 mg/m^3 (8 hour Time Weighted Average)
- Action Level (AL) = 0.03 mg/m^3 (8 hour TWA)

RESPIRATOR CLASSIFICATIONS

I. 3 Major Routes of Chemical Absorption: Skin Absorption, Ingestion, & Inhalation

II. Respiratory Hazards:

A. Oxygen Deficiency: Below 19.5 % by volume at sea level (OSHA definition)

B. Air Contaminants:

1. Particulates
2. Gaseous (gases and vapors)
3. Combination (particulate and gaseous phases)

III. Control of Hazardous Atmospheres:

A. Characterize worker exposures by collecting air samples (personal sampling is more representative of worker exposures than is area sampling)

B. Reduce Hazards:

- Elimination (don't use solvent)
- Substitution (use less toxic solvent)
- Engineering Controls (process enclosure, ventilation)
- Work Practice Controls (don't spray paint into the wind)
- Administrative Controls (schedule hazardous activities for the third shift or for the weekend when fewer workers will be exposed)
- As a last resort, provide respiratory protection to workers

IV. Respirator Coverage:

A. Mouthpiece
B. Quarter Mask
C. Half Mask
D. Full Facepiece
E. Helmet
F. Hood

V. Respirator Classifications:

A. Air-Purifying Respirators (APRs):

1. Particulate-Removing
2. Vapor- & Gas-Removing
3. Combination
4. Gas Mask
5. Powered Air-Purifying Respirator (PAPR)

B. Supplied-Air Respirators:

1. 300 feet maximum hose length as measured from the manifold
2. 125 psig (pounds per square inch gauge) maximum inlet pressure at the manifold
3. Pressure range prescribed by manufacturer must be maintained at the manifold to assure adequate flow at the respirator facepiece
4. Supplied-Air (& SCBA) Regulators:

   - **Continuous Flow**: Air always flows to the respirator. Pressure in the respirator is generally positive relative to ambient, but the regulator can be overbreathed. Recommended

   - **Demand**: Pressure in mask must first go negative relative to ambient during inhalation before air is supplied. An leakage is leakage into the mask. Not Recommended

   - **Pressure Demand**: Air pressure in mask is always positive relative to ambient. Any leakage is leakage out of the mask. Difficult, if not impossible, to overbreathe. Recommended; better than continuous flow

C. Self-Contained Breathing Apparatus (SCBA):

1. Closed-Circuit (Rebreather):

   - Available with demand or positive pressure regulators
   - Can be approved for up to 4 hour duration of use
   - Typically uses soda lime sorbent (a mixture of calcium oxide and either sodium hydroxide or potassium hydroxide) to capture water and carbon dioxide, and a small oxygen cylinder to replenish oxygen.

2. Open-Circuit:

   - Available with continuous flow (escape SCBAs only), demand, or pressure demand regulators
   - Can be approved for up to 1 hour duration of use
   - Worker breathes from compressed air cylinder

D. Combination Respirators:

1. Supplied-Air/SCBA
2. Supplied-Air/Air-Purifying

Note: With combination respirators, the SCBA or air-purifying element is generally used as an escape provision should there be a failure of the supplied-air system.

RESPIRATOR PROGRAM

Essential Elements

1. Written Company Policy & Designated Responsibility

2. Written Standard Operating Procedures (Written Program) *

3. Use NIOSH/MSHA-Approved Respirators *

4. Respirator Selection Based on Hazards Present. *
   Guidance:
   - OSHA Standards
   - NIOSH Recommendations: Criteria Documents, Pocket Guide
   - NIOSH Decision Logic: Hard Copy & Software
   - Contract Specifications
   - Expert Assistance

5. Medical Approval for Respirator Use *
   - Initially and annually thereafter

6. Respirator Training *
   - Initially and at least annually thereafter

7. Respirator Fitting
   - Applies only to respirators with tight-fitting facepieces
   - Fit Checks: Positive & Negative Pressure – Used to test the respirator seal every time the respirator is donned.
   - Fit Tests: Apply Only to Negative Pressure Respirators – Used to select the best fitting size and make of a predetermined type of respirator.
     - Qualitative: Irritant Smoke, Banana Oil, and Saccharin Taste Test
     - Quantitative: Aerosol Generation and Ambient Aerosol Systems
   - Fit Tests are conducted initially and periodically thereafter.
     OSHA Standards:
     Formaldehyde, Benzene: Initially & annually thereafter
     Asbestos, Lead, Acrylonitrile, Arsenic: Initially & every six months thereafter.
     Only the Formaldehyde, Benzene, Lead, and Asbestos Standards have "cookbook" fit test procedures.

8. Respirator Cleaning/Disinfecting *

9. Respirator Inspection *

10. Respirator Storage *

11. Surveillance of Employee Exposures *

12. Regular Program Evaluation *

13. Recognition and Resolution of Special Problems

* Listed in OSHA §29 CFR 1910.134(b): *"Requirements for a minimal acceptable program."*

PROTECTIVE CLOTHING AND HEPA VACUUMS

PROTECTIVE CLOTHING

I. Why do we wear Protective Clothing

   A. Gross contamination of body, hair, etc.
   B. Combined with proper decontamination/showers, will avoid taking lead home
   C. Rashes and discomfort from other material

II. Types of Protective Clothing

   A. Disposable - color vs. white
      1. Breathable - recommended for hot areas
      2. Non-breathable - more protection from irritants

   B. Non-disposable
      1. Goretex - Sweden - breathable
         a. Laundry Considerations
            Water: Filtered - - - local sewer regulations
            Drying: HEPA filtered

      2. Nylon/cotton - breathable, not absorbent

III. Costs

   A. Disposable - $2.50/suit (no hood or booties)

   B. 1. Goretex $35 - $150
      2. Nylon $35 - $40

IV. Proper sequence for putting clothes on

   A. Disposable and showers
      1. Remove all street clothes - jewelry
      2. Nylon bathing suit may be worn (disposable undergarments)
      3. Don coveralls
      4. Respirator
      5. Ear protection, if needed over respirator straps
      6. Head covering over respirator straps

   B. Taping Techniques
      1. Stress Points - Seams
         a. Crotch
         b. Underarms
         c. Down Back Seam

      2. Tailor to fit - order X-large
         a. Waist
         b. Wrists
         c. Forearms
         d. Ankles

V. Foot Protection

   A. Protective Clothing inadequate foot protection due to:
      1. Slippery environment
      2. Construction debris

   B. Non-slip shoes
      1. Inexpensive
      2. Bagged in work area and used at next job or bagged as waste

   C. Rubber non-slip boots
      1. More expensive, more durable (water proof)
      2. Reused, rubber

   D. Steel toed boots, steel shank
      1. Durable, reused
      2. More protective

VI. Head Protection

   A. Hard hat if removal occurs in a construction area
   B. Shower cap for increased protection of hair

VII. Hand Protection

   A. Gloves
      1. Leather
      2. Rubber
      3. Cotton

VIII. Removal of Protective Clothing/Decontamination

   A. Gloves/hat/boots left in work area
   B. Protective clothing vacuumed off, removed and left in work area (dirty equipment room) before entering shower
   C. Respirators removed after thorough shower-discard filter cartridges
   D. Special attention to hands/fingernails

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Occupational Exposure to Lead in Construction Work:

● *Regulations for Respiratory Protection* ●

State of Maryland

Division of Labor & Industry
Henry Koellein, Jr., Commissioner

1910.134—RESPIRATORY PROTECTION

(a) Permissible practice.

(1) In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used pursuant to the following requirements.

(2) Respirators shall be provided by the employer when such equipment is necessary to protect the health of the employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protective program which shall include the requirements outlined in paragraph (b) of this section.

(3) The employee shall use the provided respiratory protection in accordance with instructions and training received.

(b) Requirements for a minimal acceptable program.

(1) Written standard operating procedures governing the selection and use of respirators shall be established.

(2) Respirators shall be selected on the basis of hazards to which the worker is exposed.

(3) The user shall be instructed and trained in the proper use of respirators and their limitations.

(4) Where practicable, the respirators should be assigned to individual workers for their exclusive use.

(5) Respirators shall be regularly cleaned and disinfected. Those issued for the exclusive use of one worker should be cleaned after each day's use, or more often if necessary. Those used by more than one worker shall be thoroughly cleaned and disinfected after each use.

(6) Respirators shall be stored in a convenient, clean, and sanitary location.

(7) Respirators used routinely shall be inspected during cleaning. Worn or deteriorated parts shall be replaced. Respirators for emergency use such as self-contained devices shall be thoroughly inspected at least once a month and after each use.

(8) Appropriate surveillance of work area conditions and degree of employee exposure or stress shall be maintained.

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(9) There shall be regular inspection and evaluation to determine the continued effectiveness of the program.

(10) Persons should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The local physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically (for instance, annually).

(11) Approved or accepted respirators shall be used when they are available. The respirator furnished shall provide adequate respiratory protection against the particular hazard for which it is designed in accordance with standards established by competent authorities. The U.S. Department of Interior, Bureau of Mines, and the U.S. Department of Agriculture are recognized as such authorities. Although respirators listed by the U.S. Department of Agriculture continue to be acceptable for protection against specified pesticides, the U.S. Department of the Interior, Bureau of Mines, is the agency now responsible for testing and approving pesticide respirators.

(c) Selection of respirators.

Proper selection of respirators shall be made according to the guidance of American National Standard Practices for Respiratory Protection Z88.2–1969.

(d) Air quality.

(1) Compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration shall be of high purity. Oxygen shall meet the requirements of the United States Pharmacopoeia for medical or breathing oxygen. Breathing air shall meet at least the requirements of the specification for Grade D breathing air as described in Compressed Gas Association Commodity Specification G–7.1–1966. Compressed oxygen shall not be used in supplied-air respirators or in open circuit self-contained breathing apparatus that have previously used compressed air. Oxygen must never be used with air line respirators.

(2) Breathing air may be supplied to respirators from cylinders or air compressors.

(i) Cylinders shall be tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR Part 178).

(ii) The compressor for supplying air shall be equipped with necessary safety and standby devices. A breathing air-type compressor shall be used. Compressors shall be constructed and situated so as to avoid entry of contaminated air into the system and suitable in-line air purifying sorbent beds and filters installed to further assure breathing air quality. A receiver of sufficient capacity to enable the respirator wearer to escape from a contaminated atmosphere in event of compressor failure, and alarms to indicate compressor failure and overheating shall be installed in the system. If an oil-lubricated compressor is used, it shall have a high-temperature or carbon monoxide alarm, or both. If only a high-temperature alarm is used, the air from the compressor shall be frequently tested for carbon monoxide to insure that it meets the specifications in subparagraph (1) of this paragraph.

(3) Air line couplings shall be incompatible with outlets for other gas systems to prevent inadvertent servicing of air line respirators with nonrespirable gases or oxygen.

(4) Breathing gas containers shall be marked in accordance with American National Standard Method of Marking Portable Compressed Gas Containers to Identify the Material Contained, Z48.1–1954; Federal Specification BB–A–1034a, June 21, 1968, Air, Compressed for Breathing Purposes; or Interim Federal Specification GG–B–00675b, April 27, 1965, Breathing Apparatus, Self-Contained.

(e) Use of respirators.

(1) Standard procedures shall be developed for respirator use. These should include all

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tive lenses inside full facepieces. When a workman must wear corrective lenses as part of the facepiece, the facepiece and lenses shall be fitted by qualified individuals to provide good vision, comfort, and a gas-tight seal.

(iii) If corrective spectacles or goggles are required, they shall be worn so as not to affect the fit of the facepiece. Proper selection of equipment will minimize or avoid this problem.

(f) *Maintenance and care of respirators.*

(1) A program for maintenance and care of respirators shall be adjusted to the type of plant, working conditions, and hazards involved, and shall include the following basic services:

(i) Inspection for defects (including a leak check),

(ii) Cleaning and disinfecting,

(iii) Repair,

(iv) Storage

Equipment shall be properly maintained to retain its original effectiveness.

(2)

(i) All respirators shall be inspected routinely before and after each use. A respirator that is not routinely used but is kept ready for emergency use shall be inspected after each use and at least monthly to assure that it is in satisfactory working condition.

(ii) Self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be fully charged according to the manufacturer's instructions. It shall be determined that the regulator and warning devices function properly.

(iii) Respirator inspection shall include a check of the tightness of connections and the condition of the facepiece, headbands, valves, connecting tube, and canisters. Rubber or elastomer parts shall be inspected for pliability and signs of deterioration. Stretching and manipulating rubber or elastomer parts with a massaging action will keep them pliable and flexible and prevent them from taking a set during storage.

(iv) A record shall be kept of inspection dates and findings for respirators maintained for emergency use.

(3) Routinely used respirators shall be collected, cleaned, and disinfected as frequently as necessary to insure that proper protection is provided for the wearer. Each worker should be briefed on the cleaning procedure and be assured that he will always receive a clean and disinfected respirator. Such assurances are of greatest significance when respirators are not individually assigned to workers. Respirators maintained for emergency use shall be cleaned and disinfected after each use.

(4) Replacement or repairs shall be done only by experienced persons with parts designed for the respirator. No attempt shall be made to replace components or to make adjustment or repairs beyond the manufacturer's recommendations. Reducing or admission valves or regulators shall be returned to the manufacturer or to a trained technician for adjustment or repair.

(5)

(i) After inspection, cleaning, and necessary repair, respirators shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. Respirators placed at stations and work areas for emergency use should be quickly accessible at all times and should be stored in compartments built for the purpose. The compartments should be clearly marked. Routinely used respirators, such as dust respirators, may be placed in plastic bags. Respirators should not be stored in such places as lockers or tool boxes unless they are in carrying cases or cartons.

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information and guidance necessary for their proper selection, use, and care. Possible emergency and routine uses of respirators should be anticipated and planned for.

(2) The correct respirator shall be specified for each job. The respirator type is usually specified in the work procedures by a qualified individual supervising the respiratory protective program. The individual issuing them shall be adequately instructed to insure that the correct respirator is issued. Each respirator permanently assigned to an individual should be durably marked to indicate to whom it was assigned. This mark shall not affect the respirator performance in any way. The date of issuance should be recorded.

(3) Written procedures shall be prepared covering safe use of respirators in dangerous atmospheres that might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available respirators.

(i) In areas where the wearer, with failure of the respirator, could be overcome by a toxic or oxygen-deficient atmosphere, at least one additional man shall be present. Communications (visual, voice, or signal line) shall be maintained between both or all individuals present. Planning shall be such that one individual will be unaffected by any likely incident and have the proper rescue equipment to be able to assist the other(s) in case of emergency.

(ii) When self-contained breathing apparatus or hose masks with blowers are used in atmospheres immediately dangerous to life or health, standby men must be present with suitable rescue equipment.

(iii) Persons using air line respirators in atmospheres immediately hazardous to life or health shall be equipped with safety harnesses and safety lines for lifting or removing persons from hazardous atmospheres or other and equivalent provisions for the rescue of persons from hazardous atmospheres shall be used. A standby man or men with suitable self-contained breathing apparatus shall be at the nearest fresh air base for emergency rescue.

(4) Respiratory protection is no better than the respirator in use, even though it is worn conscientiously. Frequent random inspections shall be conducted by a qualified individual to assure that respirators are properly selected, used, cleaned, and maintained.

(5) For safe use of any respirator, it is essential that the user be properly instructed in its selection, use, and maintenance. Both supervisors and workers shall be so instructed by competent persons. Training shall provide the men an opportunity to handle the respirator, have it fitted properly, test its face-piece-to-face seal, wear it in normal air for a long familiarity period, and, finally, to wear it in a test atmosphere.

(i) Every respirator wearer shall receive fitting instructions including demonstrations and practice in how the respirator should be worn, how to adjust it, and how to determine if it fits properly. Respirators shall not be worn when conditions prevent a good face seal. Such conditions may be a growth of beard, sideburns, a skull cap that projects under the facepiece, or temple pieces on glasses. Also, the absence of one or both dentures can seriously affect the fit of a facepiece. The worker's diligence in observing these factors shall be evaluated by periodic check. To assure proper protection, the facepiece fit shall be checked by the wearer each time he puts on the respirator. This may be done by following the manufacturer's facepiece fitting instructions.

(ii) Providing respiratory protection for individuals wearing corrective glasses is a serious problem. A proper seal cannot be established if the temple bars of eye glasses extend through the sealing edge of the full facepiece. As a temporary measure, glasses with short temple bars or without temple bars may be taped to the wearer's head. Wearing of contact lenses in contaminated atmospheres with a respirator shall not be allowed. Systems have been developed for mounting correc-

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(ii) Respirators should be packed or stored so that the facepiece and exhalation valve will rest in a normal position and function will not be impaired by the elastomer setting in an abnormal position.

(iii) Instructions for proper storage of emergency respirators, such as gas masks and self-contained breathing apparatus, are found in "use and care" instructions usually mounted inside the carrying case lid.

(g) Identification of gas mask canisters.

(1) The primary means of identifying a gas mask canister shall be by means of properly worded labels. The secondary means of identifying a gas mask canister shall be by a color code.

(2) All who issue or use gas masks falling within the scope of this section shall see that all gas mask canisters purchased or used by them are properly labeled and colored in accordance with these requirements before they are placed in service and that the labels and colors are properly maintained at all times thereafter until the canisters have completely served their purpose.

(3) On each canister shall appear in bold letters the following:

(i)

Canister for ....
(Name for atmospheric contaminant)
or
Type N Gas Mask Canister

(ii) In addition, essentially the following wording shall appear beneath the appropriate phase on the canister label: "For respiratory protection in atmospheres containing not more than .... percent by volume of ....
...."

(4) Canisters having a special high-efficiency filter for protection against radionuclides and other highly toxic particulates shall be labeled with a statement of the type and degree of protection afforded by the filter. The label shall be affixed to the neck end of, or to the gray stripe which is around and near the top of, the canister. The degree of protection shall be marked as the percent of penetration of the canister by a 0.3-micron-diameter dioctyl phthalate (DOP) smoke at a flow rate of 85 liters per minute.

(5) Each canister shall have a label warning that gas masks should be used only in atmospheres containing sufficient oxygen to support life (at least 16 percent by volume), since gas mask canisters are only designed to neutralize or remove contaminants from the air.

(6) Each gas mask canister shall be painted a distinctive color or combination of colors indicated in Table I-1. All colors used shall be such that they are clearly identifiable by the user and clearly distinguishable from one another. The color coating used shall offer a high degree of resistance to chipping, scaling, peeling, blistering, fading, and the effects of the ordinary atmospheres to which they may be exposed under normal conditions of storage and use. Appropriately colored pressure sensitive tape may be used for the stripes.

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APPENDIX D TO SECTION 1910.1025— QUALITATIVE FIT TEST PROTOCOLS

This appendix specifies the only allowable qualitative fit test protocols permissible for compliance with paragraph (f)(3)(ii).

I. Isoamyl Acetate Protocol

A. Odor threshold screening.

1. Three 1-liter glass jars with metal lids (e.g. Mason or Bell jars) are required.

2. Odor-free water (e.g. distilled or spring water) at approximately 25°C shall be used for the solutions.

3. The isoamyl acetate (IAA) (also known as isopentyl acetate) stock solution is prepared by adding 1 cc of pure IAA to 800 cc of odor free water in a 1-liter jar and shaking for 30 seconds. The solution shall be prepared new at least weekly.

4. The screening test shall be conducted in a room separate from the room used for actual fit testing. The two rooms shall be well ventilated but may not be connected to the same recirculating ventilation system.

5. The odor test solution is prepared in a second jar by placing .4 cc of the stock solution into 500 cc of odor free water using a clean dropper or pipette. Shake for 30 seconds and allow to stand for two to three minutes so that the IAA concentration above the liquid may reach equilibrium. This solution may be used for only one day.

6. A test blank is prepared in a third jar by adding 500 cc of odor free water.

7. The odor test and test blank jars shall be labelled 1 and 2 for jar identification. If the labels are put on the lids they can be periodically *dried off* and switched to avoid people thinking the same jar always has the IAA.

8. The following instructions shall be typed on a card and placed on the table in front of the two test jars (i.e. 1 and 2):

"The purpose of this test is to determine if you can smell banana oil at a low concentration. The two bottles in front of you contain water. One of these bottles also contains a small amount of banana oil. Be sure the covers are on tight, then shake each bottle for two seconds. Unscrew the lid of each bottle, one at a time, and sniff at the mouth of the bottle. Indicate to the test conductor which bottle contains banana oil."

9. The mixtures used in the IAA odor detection test shall be prepared in an area separate from where the test is performed, in order to prevent olfactory fatique in the subject.

10. If the test subject is unable to correctly identify the jar containing the odor test solution, the IAA QLFT may not be used.

11. If the test subject correctly identifies the jar containing the odor test solution he may proceed to respirator selection and fit testing.

B. Respirator selection.

1. The test subject shall be allowed to select the most comfortable respirator from a large array of various sizes and manufacturers that includes at least three sizes of elastomeric half facepieces and units of at least two manufacturers.

2. The selection process shall be conducted in a room separate from the fit-test chamber to prevent odor fatigue. Prior to the selection process, the test subject shall be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension and how to assess a "comfortable" respirator. A mirror shall be available to assist the subject in evaluating the fit and positioning of the respirator. This may not constitute his formal training on respirator use, only a review.

3. The test subject should understand that he is being asked to select the respirator which provides the most comfortable fit for him. Each respirator represents a different size and shape and, if fit properly, will provide adequate protection.

4. The test subject holds each facepiece up to his face and eliminates those which are obviously not giving a comfortable fit. Normally, selection will begin with a half-mask and if a fit cannot be found here, the subject will be asked to go to the full facepiece respirators. (A small percentage of users will not be able to wear any half-mask.)

5. The more comfortable facepieces are recorded: the most comfortable mask is donned and *worn at least five minutes* to assess comfort. Assistance in assessing comfort can be given by discussing the points in #6 below. If the test subject is not familiar with using a particular respirator, he shall be directed to don the mask several times and to adjust the straps each time, so that he becomes adept at setting proper tension on the straps.

6. Assessment of comfort shall include reviewing the following points with the test subject:

- Chin properly placed.
- Positioning of mask on nose.
- Strap tension.
- Fit across nose bridge.
- Room for safety glasses.
- Distance from nose to chin.
- Room to talk.
- Tendency to slip.
- Cheeks filled out.
- Self-observation in mirror.
- Adequate time for assessment.

7. The test subject shall conduct the conventional negative and positive-pressure fit checks (e.g. see ANSI Z88.2-1980). Before conducting the negative- or positive-pressure checks, the subject shall be told to "seat" his mask by rapidly moving the head side-to-side and up and down, taking a few deep breaths.

8. The test subject is now ready for fit testing.

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2. The test enclosure shall have a three-quarter inch hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.

3. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

4. The test subject shall don the test enclosure. For the threshold screening test, he shall breathe through his open mouth with tongue extended.

5. Using a DeVilbiss Model 40 Inhalation Medication Nebulizer, the test conductor shall spray the threshold check solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer or equivalent.

6. The threshold check solution consists of 0.83 grams of sodium saccharin, USP in water. It can be prepared by putting 1 cc of the test solution (see C6 below) in 100 cc of water.

7. To produce the aerosol, the nebulizer bulb is firmly squeezed so that it collapses completely then released and allowed to fully expand.

8. Ten squeezes are repeated rapidly and then the test subject is asked whether the saccharin can be tasted.

9. If the first response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted.

10. If the second response is negative ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted.

11. The test conductor will take note of the number of squeezes required to elicit a taste response.

12. If the saccharin is not tasted after 30 squeezes (Step 9), the test subject may not perform the saccharin fit test.

13. If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.

14. Correct use of the nebulizer means that approximately 1 cc of liquid is used at a time in the nebulizer body.

15. The nebulizer shall be thoroughly rinsed in water, shaken dry, and refilled at least each morning and afternoon or at least every four hours.

B. Respirator selection.

Respirators shall be selected as described in section IB above, except that each respirator shall be equipped with a particular filter cartridge.

C. Fit test.

1. The fit test uses the same enclosure described in B1 and B2 above.

2. Each test subject shall wear his respirator for at least 10 minutes before starting the fit test.

3. The test subject shall don the enclosure while wearing the respirator selected in section A above. This respirator shall be properly adjusted and equipped with a particular filter cartridge.

4. The test subject may not eat, drink (except plain water), or chew gum for 15 minutes before the test.

5. A second DeVilbiss Model 40 Inhalation Medication Nebulizer is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer or equivalent.

6. The fit test solution is prepared by adding 83 grams of sodium saccharin to 100 cc of warm water.

7. As before, the test subject shall breathe through the open mouth with tongue extended.

8. The nebulizer is inserted into the hole in the front of the enclosure and the fit test solution is sprayed into the enclosure using the same technique as for the taste threshold screening and the same number of squeezes required to elicit a taste response in the screening. (See B 10 above).

9. After generation of the aerosol the test subject shall be instructed to perform the following exercises for one minute each.

i. Normal breathing.

ii. Deep breathing. Be certain breaths are *deep and regular.*

iii. Turning head from side-to-side. Be certain movement is complete. Alert the test subject not to bump the respirator on the shoulders. Have the test subject inhale when his head is at either side.

iv. Nodding head up-and-down. Be certain motions are complete. Alert the test subject not to bump the respirator on the chest. Have the test subject inhale when his head in the fully up position.

v. Talking. Talk aloud and slowly for several minutes. The following paragraph is called the Rainbow Passage. Reading it will result in a wide range of facial movements, and thus be useful to satisfy this requirement. Alternative passages which serve the same purpose may also be used.

Rainbow Passage

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond his reach, his friends say he is looking for the pot of gold at the end of the rainbow.

10. Every 30 seconds, the aerosol concentration shall be replenished using one-half the number of squeeze as initially (C8).

11. The test subject shall so indicate to the test conductor

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9. After passing the fit test, the test subject shall be questioned again regarding the comfort of the respirator. If it has become uncomfortable, another model of respirator shall be tried.

10. The employee shall be given the opportunity to select a different facepiece and be retested if during the first two weeks of on-the-job wear the chosen facepiece becomes unacceptably uncomfortable.

C. Fit test.

1. The fit test chamber shall be substantially similar to a clear 55 gallon drum liner suspended inverted over a 2 foot diameter frame, so that the top of chamber is about 6 inches above the test subject's head. The inside top center of the chamber shall have a small hook attached.

2. Each respirator used for the fitting and fit testing shall be equipped with organic vapor cartridges or offer protection against organic vapors. The cartridges or masks shall be changed at least weekly.

3. After selecting, donning, and properly adjusting a respirator himself, the test subject shall wear it to the fit testing room. This room shall be separate from the room used for odor threshold screening and respirator selection, and shall be well ventilated, as by an exhaust fan or lab hook, to prevent general room contamination.

4. A copy of the following test exercises and rainbow (or equally effective) passage shall be taped to the inside of the test chamber:

Test Exercises

i. Normal breathing.

ii. Deep breathing. Be certain breaths are *deep* and *regular*.

iii. Turning head from side-to-side. Be certain movement is complete. Alert the test subject not to bump the respirator on the shoulders. Have the test subject inhale when his head is at either side.

iv. Nodding head up-and-down. Be certain motions are complete and made about every second. Alert the test subject not bump the respirator on the chest. Have the test subject inhale when his head is in the fully up position.

v. Talking. Talk aloud and slowly for several minutes. The following paragraph is called the Rainbow Passage. Reading it will result in a wide range of facial movements, and thus be useful to satisfy this requirement. Alternative passages which serve the same purpose may also be used.

Rainbow Passage

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a divison of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.

vi. Normal breathing.

5. Each test subject shall wear his respirator for at least 10 minutes before starting the fit test.

6. Upon entering the test chamber, the test subject shall be given a 6 inch by 5 inch piece of paper towel or other porous absorbent single ply material, folded in half and wetted with three-quarters of one cc of pure IAA. The test subject shall hang the wet towel on the hook at the top of the chamber.

7. Allow two minutes for the IAA test concentration to be reached before starting the fit-test exercises. This would be an appropriate time to talk with the test subject, to explain the fit test, the importance of his cooperation, the purpose for the head exercises, or to demonstrate some of the exercises.

8. Each exercise described in No. 4 above shall be performed for at least one minute.

9. If at any time during the test, the subject detects the banana-like odor of IAA, he shall quickly exit from the test chamber and leave the test area to avoid olfactory fatigue.

10. Upon returning to the selection room, the subject shall remove the respirator, repeat the odor sensitivity test, select and put on another respirator, return to the test chamber, etc. The process continues until a respirator that fits well has been found. Should the odor sensitivity test be failed, the subject shall wait about 5 minutes before retesting. Odor sensitivity will usually have returned by this time.

11. If a person cannot be fitted with the selection of half-mask respirators, include full facepiece models in the selection process. When a respirator is found that passes the test, its efficiency shall be demonstrated for the subject by having him break the face seal and take a breath before exiting the chamber.

12. When the test subject leaves the chamber he shall remove the saturated towel, returning it to the test conductor. To keep the area from becoming contaminated, the used towels shall be kept in a self-sealing bag. There is no significant IAA concentration buildup in the test chamber from subsequent tests.

13. Persons who have successfully passed this fit test may be assigned the use of the tested respirator in atmospheres with up to 10 times the PEL of airborne lead. In other words this IAA protocol may be used to assign a protection factor no higher than 10.

II. Saccharin Solution Aerosol Protocol

A. Taste threshold screening.

1. Threshold screening as well as fit testing employees shall use an enclosure about the head and shoulders that is approximately 12 inches in diameter by 14 inches tall with at least the front portion clear and that allows free movement of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly of part # FT 14 and FT 15 combined is adequate.

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if at any time during the fit test the taste of saccharin is detected.

12. If the saccharin is detected the fit is deemed unsatisfactory and a different respirator shall be tried.

13. Successful completion of the test protocol shall allow the use of the tested respirator in contaminated atmospheres up to 10 times the PEL. In other words this protocol may be used assign protection factors no higher than ten.

III. Irritant Fume Protocol

A. Respirator selection.

Respirators shall be selected as described in section IB above, except that each respirator shall be equipped with high efficiency cartridges.

B. Fit test.

1. The test subject shall be allowed to smell a weak concentration of the irritant smoke to familiarize him with its characteristic odor.

2. The test subject shall properly don the respirator selected as above, and wear it for at least 10 minutes before starting the fit test.

3. The test conductor shall review this protocol with the test subject before testing.

4. The test subject shall perform the conventional positive pressure and negative pressure fit checks. Failure of either check shall be cause to select an alternate respirator.

5. Break both ends of a ventilation smoke tube containing stannic oxychloride, such as the MSA part No. 5645, or equivalent. Attach a short length of tubing to one end of the smoke tube. Attach the other end of the smoke tube to a low pressure air pump set to deliver 200 milliliters per minute.

6. Advise the test subject that the smoke can be irritating to the eyes and instruct him to keep his eyes closed while the test is performed.

7. The test conductor shall direct the stream of irritant smoke from the tube towards the faceseal area of the test subject. He shall begin at least 12 inches from the facepiece and gradually move to within one inch, moving around the whole perimeter of the mask.

8. The following exercises shall be performed while the respirator seal is being challenged by the smoke. Each shall be performed for one minute.

i. Normal breathing.

ii. Deep breathing. Be certain breaths are *deep* and *regular*.

iii. Turning head from side-to-side. Be certain movement is complete. Alert the test subject not to bump the respirator on the shoulders. Have test subject inhale when his head is at either side.

iv. Nodding head up-and-down. Be certain motions are complete. Alert the test subject not to bump the respirator on the chest. Have the test subject inhale when his head is in the fully up position.

v. Talking—slowly and distinctly, count backwards from 100.

vi. Normal breathing.

9. If the irritant smoke produces an involuntary reaction (cough) by the test subject, the test conductor shall stop the test. In this case the test respirator is rejected and another respirator shall be selected.

10. Each test subject passing the smoke test without evidence of a response shall be given a sensitivity check of the smoke from the same tube to determine whether he reacts to the smoke. Failure to evoke a response shall void the fit test.

11. Steps B4, B7, B8 of this protocol shall be performed in a location with exhaust ventilation sufficient to prevent general contamination of the testing area by the test agents (IAA, irritant smoke).

12. Respirators successfully tested by the protocol may be used in contaminated atmospheres up to ten times the PEL. In other words this protocol may be used to assign protection factors not exceeding ten. [appendix D amended at 48 F.R. 9641, 3/8/83.]

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AIR SPECIFICATION

1. SCOPE

1.1 This document describes the specification requirements for air, including atmospheric air and air synthesized by blending oxygen and nitrogen in the proper proportions. It is different from other gas specifications because atmospheric air is not a manufactured product but is naturally occuring. Atmospheric air contains a large variety of trace constituents on many of which it is impractical to set individual limits. However, this specification qualifies certain grades of air by limiting the concentrations of specific trace constituents.

2. CLASSIFICATION

2.1 Types — Gaseous air is denoted as Type I and liquid air as Type II.

2.2 Grades — Table 1 presents the component maxima, in ppm (v/v) unless shown otherwise, for the types and grades of air. A blank indicates no maximum limiting characteristic.

TABLE 1

Limiting Characteristics	TYPE I (GASEOUS)									TYPE II (LIQUID)	
	GRADES										
	A	B	C	D	E	F	G	H	J	A	B
% O_2 (v/v) Balance Predominantly N_2 (Note 1)	atm.	atm.	atm/ 19.5-23.5	atm/ 19.5-23.5	atm/ 19.5-23.5	atm/ 19.5-23.5	atm/ 19.5-23.5	atm/ 19.5-23.5	atm/ 19.5-23.5	atm/ 19.5-23.5	atm/ 19.5-23.5
Water		none condensed (per 5.3.1)	note 2	note 2	note 2	note 2	note 2	note 2	1 (−104°F)		note 2
Hydrocarbons (condensed) in Mg/m³ of gas at NTP (Note 3)		none (per 5.4.1)	5	5	5						
Carbon Monoxide			50	20	10	5	5	5	1		5
Odor			see 5.1.5	see 5.1.5	see 5.1.5	see 5.1.5	see 5.1.5	see 5.1.5	see 5.1.5		none
Carbon Dioxide				1000	500	500	500	500	0.5		5
Gaseous Hydrocarbons (as methane)						25	15	10	0.5		10
Nitrogen Dioxide							2.5	0.5	0.1		0.5
Nitrous Oxide									0.1		
Sulfur Dioxide							2.5	0.5	0.1		0.5
Halogenated Solvents							10	1	0.1		1
Acetylene									0.05		0.5
Permanent Particulates											— 15

Note 1: The term "atm" (atmospheric) denotes the oxygen content normally present in atmospheric air; the numerical values denote the oxygen limits for synthesized air.

Note 2: The water content of compressed air required for any particular grade may vary with the intended use from saturated to very dry. If a specific water limit is required, it should be specified as a limiting dewpoint or concentration in ppm (v/v). Dewpoint is expressed in temperature °F at one atmosphere absolute pressure (760 mmHg). To convert dewpoint °F to °C, ppm (v/v), or mg/liter, see 7.1.

Note 3: No limits are given for condensed hydrocarbons beyond grade E since the gaseous hydrocarbon limits could not be met if condensed hydrocarbons were present.

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OCCUPATIONAL SAFETY AND HEALTH STANDARD

OCCUPATIONAL EXPOSURE TO LEAD IN CONSTRUCTION WORK

COMAR 09.12.32

STATE OF MARYLAND

DIVISION OF LABOR AND INDUSTRY
Henry Koellein, Jr., Commissioner

William Donald Schaefer
Governor of Maryland

William A. Fogle, Jr., Secretary
Department of Licensing and Regulation

Readopted: November 28, 1988

Title 09
DEPARTMENT OF LICENSING AND REGULATION

Subtitle 12 DIVISION OF LABOR AND INDUSTRY

Chapter 32 Maryland Occupational Safety and Health Standard for Occupational Exposure to Lead in Construction Work

Authority: Article 89, Sections 30(a), 31(i), and 31(m), Annotated Code of Maryland

.01 Scope and Application.

A. This chapter applies to occupational exposure to lead of every employee engaged in construction work. Each employer shall protect the employment and places of employment of each employee engaged in construction work by complying with this chapter.

B. Compliance with this chapter does not preclude or preempt the applicability of any other regulations or standards.

.02 Definitions.

A. For the purpose of this chapter certain words and terms are defined as follows.

B. Terms Defined.

(1) "Action level" means employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air (30 micrograms/cubic meter) averaged over an 8-hour period.

(2) "Commissioner" means the Commissioner of Labor and Industry or designee.

(3) Construction Work.

(a) "Construction work" means construction, alteration, or repair, or all of the above, including, but not limited to, renovation, demolition, reconstruction, refurbishing, restoration, painting, and decorating.

(b) Construction work also includes the erection of new electric transmission and distribution lines and equipment, and the alteration, conversion, and improvement of the existing transmission and distribution lines and equipment.

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(4) Lead.

(a) "Lead" means metallic lead, all inorganic lead compounds, and organic lead soaps.

(b) "Lead" does not include any other organic lead compounds.

(5) "PEL" means Permissible Exposure Limit.

(6) "TWA" means Time Weighted Average.

.03 Permissible Exposure Limit (PEL).

A. The employer shall ensure that no employee is exposed to lead at concentrations greater than 50 micrograms per cubic meter of air (50 micrograms/cubic meter) averaged over an 8-hour period.

B. When an employee is exposed to lead for more than 8 hours in any work day, the employer shall use the following formula to reduce the permissible exposure limit, as a time weighted average (TWA) for that day: Maximum permissible limit (in micrograms/ cubic meter) = 400 divided by hours worked in the day.

C. Respirators. When respirators are used to supplement engineering and work practice controls to comply with the PEL and in accordance with the requirements of Regulation .06, the employer, for the purpose of determining compliance with the PEL, may:

(1) Consider employee exposure to be at the level provided by the protection factor of the respirator for those periods the respirator is worn; and

(2) Average those periods with exposure levels during periods when respirators are not worn to determine the employee's daily TWA exposure.

.04 Initial Determination and Exposure Monitoring.

A. General.

(1) For the purposes of this regulation, employee exposure is that exposure which would occur if the employee were not using a respirator.

(2) Personal Samples.

(a) With the exception of monitoring under Section C, below, the employer shall collect personal samples for

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the entire time during the shift when lead exposure may occur.

(b) The personal samples shall:

(i) Include at least one sample for every job classification in each work area during each shift; and

(ii) Be representative of the monitored employee's regular, daily exposure to lead.

B. Initial Determination.

(1) An employer having a jobsite covered by this chapter shall determine before the beginning of potential exposure to lead if an employee may be exposed to lead at or above the action level.

(2) Written record.

(a) The employer shall:

(i) Make a written record of the determination, and

(ii) Post the record in a place accessible to employees;

(b) At a minimum, the record shall include:

(i) The information specified in Section C, below,

(ii) The date of determination,

(iii) Location of the jobsite,

(iv) Process,

(v) Materials,

(vi) Location within the jobsite, and

(vii) The name and social security number of employees monitored.

C. Basis of Initial Determination. The employer shall base an initial determination on any of the following, relevant considerations:

(1) Information, observations, calculations, or anticipated operations which would indicate employee exposure to lead;

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(2) Previous measurements of airborne lead and analytical methods meeting the criteria of Section I, below; and

(3) Other indications of potential lead exposure.

D. Positive Initial Determination and Initial Monitoring.

(1) When a determination conducted under Sections B and C, above, shows the possibility of employee exposure at or above the action level, the employer shall conduct exposure monitoring immediately at the start of the operation which may involve lead exposure.

(2) The monitoring shall be representative of the exposure for each employee in the workplace who is exposed to lead.

(3) When the type of jobsite, process, and materials involved has not changed, measurements of airborne lead, taken in accordance with Section I, below, and made during the preceding 12 months may be used to satisfy this requirement.

E. Negative Initial Determination. When the employer determines, in accordance with Sections B and C, above, that no employee is exposed to airborne concentrations of lead at or above the action level, the employer shall make a written record of the determination in accordance with Section B.

F. Frequency. Except as required by Section G, below, when the initial determination or subsequent monitoring reveals employee exposure:

(1) Above the PEL, the employer shall conduct monitoring quarterly until at least two consecutive measurements, taken at least 7 days apart, are at or below the PEL; and

(2) At or above the action level, but not exceeding the PEL, the employer shall conduct monitoring at least once every 6 months until at least two consecutive measurements, taken at least 7 days apart, are below the action level, at which time the employer may discontinue monitoring for that employee.

G. Additional Monitoring.

(1) When there is either a production, jobsite, material, process, control, or personnel change which may result in new or additional lead exposure or any other reason to suspect a change, which may result in new or additional exposures to lead, the employer shall conduct additional monitoring in accordance with this chapter.

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(2) When an employee complains of symptoms which may be attributable to exposure to lead, the employer shall conduct personal monitoring representative of the exposure to each employee in the affected job classification or performing the same operation who may be exposed to lead.

H. Employee Notification.

(1) Within 5 working days of the receipt of any monitoring results, the employer shall notify each employee in writing of the results which represent that employee's exposure.

(2) Whenever the results indicate that the representative employee exposure, without regard to respirators, exceeds the PEL, the employer shall include in the written notice:

(a) A statement that the PEL was exceeded; and

(b) A description of the corrective action that has been, or will be, taken to reduce exposure to a level at or below the PEL.

I. Accuracy of Measurement. The employer shall use a method of monitoring and analysis which has an accuracy, to a confidence level of 95 percent, of not less than plus or minus 20 percent for airborne concentrations of lead equal to or greater than 30 micrograms/cubic meter.

.05 Methods of Compliance.

A. Engineering and Work Practice Controls.

(1) When any employee is exposed to lead above the PEL, the employer shall implement engineering and work practice controls, including administrative controls, to reduce and maintain employee exposure to lead, except to the extent that the employer can demonstrate that these controls are not feasible.

(2) When the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposure to a level at or below the PEL, the employer shall:

(a) Use them to reduce exposure to the lowest feasible level; and

(b) Supplement them by the use of respiratory protection which complies with the requirements of Regulation .06.

B. Compliance Program.

(1) Each employer shall establish and implement a

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written compliance program to reduce exposure.

(2) Written Program. The written compliance program shall, at a minimum, include:

(a) A description of each operation in which lead is expected, including;

(i) Equipment used,

(ii) Materials used,

(iii) Controls in place,

(iv) Crew size,

(v) Employee job responsibilities,

(vi) Operating procedures, and

(vii) Maintenance practices;

(b) A description of the specific means that will be employed to achieve compliance;

(c) A report of the technology considered in meeting the PEL;

(d) A work practice program which includes items required under Regulations .07, .08, and .09;

(e) The administrative control schedule required by Section C, if applicable; and

(f) Other relevant information.

(3) Written programs shall be:

(a) Submitted upon request to the Commissioner; and

(b) Available at the jobsite for examination and copying by the Commissioner, any affected employee, or authorized employee representative.

(4) At least every 6 months, the employer shall:

(a) Review the written compliance program; and

(b) If necessary, revise it to reflect the current status of the program.

C. Administrative Controls. If administrative controls are

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used as a means of reducing employee TWA lead exposure, the employer shall establish and implement a job rotation schedule which includes:

(1) The name or identification number of each affected employee;

(2) The duration and the exposure level at each job or work station where an affected employee is located; and

(3) Any other information which may be useful in assessing the reliability of administrative controls in reducing exposure to lead.

.06 Respiratory Protection.

A. General.

(1) When this chapter requires the use of respirators, the employer shall:

(a) Provide respirators that comply with the requirements of this regulation, at no cost to the employee; and

(b) Ensure their use.

(2) Respirators shall be used:

(a) During the time period necessary to install or implement engineering or work practice controls;

(b) In a work situation in which engineering and work practice controls are not sufficient to reduce exposure to a level at or below the PEL; and

(c) Whenever an employee requests a respirator.

B. Respirator Selection.

(1) When a respirator is required under this chapter, the employer shall select the appropriate respirator or combination of respirators in accordance with this section from Table I.

(2) Powered Air-Purifying Respirators. The employer shall provide a powered air-purifying respirator instead of the respirator specified in Table I whenever:

(a) An employee chooses to use this type of respirator; and

(b) This respirator will provide adequate

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protection to the employee.

(3) The employer shall select respirators from among those approved for protection against lead dust, fume, and mist by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.

C. Respirator Usage.

(1) The employer shall ensure that the respirator issued to the employee:

(a) Exhibits minimum facepiece leakage; and

(b) Is fitted properly.

(2) Fit Test.

(a) For each employee wearing a negative pressure respirator, the employer shall perform either a quantitative or qualitative face fit test:

(i) At the time of initial fitting; and

(ii) Minimally, every 6 months after that.

(b) The qualitative fit test:

(i) May be used only to test the fit of a half-mask respirator when it is otherwise permitted to be worn; and

(ii) Shall be conducted in accordance with Appendix D of 29 CFR 1910.1025, here incorporated by reference.

(c) The tests shall be used to select facepieces that provide the protection prescribed in Table I.

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Table I. Respiratory Protection for Lead Aerosols

Airborne concentration of lead or condition of use	Required respirator[1]
Not in excess of 0.5 milligrams/cubic meter (10X PEL).	Half-mask, air-purifying respirator equipped with high efficiency filters.[2,3]
Not in excess of 2.5 milligrams/cubic meter (50X PEL).	Full facepiece, air-purifying respirator with high efficiency filters.[3]
Not in excess of 50 milligrams/cubic meter (1000X PEL).	(1) Any powered, air-purifying respirator with high efficiency filters,[3] or (2) Half-mask, supplied-air respirator operated in positive-pressure mode.[2]
Not in excess of 100 milligrams/cubic meter (2000X PEL).	Supplied-air respirators with full facepiece, hood, helmet, or suit, operated in positive pressure mode.
Greater than 100 milligrams/cubic meter, unknown concentration or fire fighting.	Full facepiece, self-contained breathing apparatus operated in positive-pressure mode.

[1] Respirators specified for high concentrations can be used at lower concentrations of lead.

[2] Full facepiece is required if the lead aerosols cause eye or skin irritation at the use concentrations.

[3] A high efficiency particulate filter means 99.97 percent efficiency against 0.3 micron size particles.

(3) If an employee exhibits difficulty in breathing during the fit test or during use, the employer shall make available to the employee an examination in accordance with Regulation .11A(2) to determine whether the employee can wear a respirator while performing the required duty.

D. Respirator Program.

(1) The employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134(b), (d),

(e), and (f).

(2) The employer shall:

(a) Permit an employee who uses a filter respirator to change the filter elements when an increase in breathing resistance is detected; and

(b) Maintain an adequate supply of filter elements for this purpose;

(c) Permit an employee who wears a respirator to leave the work area to wash his or her face and respirator facepiece when necessary to prevent skin irritation associated with respirator use.

.07 Protective Work Clothing and Equipment.

A. Provision and Use. When an employee is exposed to lead above the PEL, without regard to the use of respirators, or when the possibility of skin or eye irritation exists, the employer shall:

(1) Provide, at no cost to the employee, appropriate protective work clothing and equipment, such as, but not limited to:

(a) Coveralls or similar full-body work clothing;

(b) Shoes or disposable shoe coverlets, gloves, and hats;

(c) Face shields, vented goggles, or other appropriate protective equipment which complies with 29 CFR 1926.102, here incorporated by reference; and

(2) Ensure that the employee uses the appropriate protective clothing and equipment.

B. Cleaning and Replacement. The employer shall:

(1) Provide the protective clothing required in Section A:

(a) In a clean and dry condition,

(b) Daily to an employee whose exposure level, without regard to a respirator, is over 200 micrograms/cubic meter of lead as an 8-hour TWA, and

(c) At least weekly to other employees;

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(2) Provide for the cleaning, laundering, or disposal of protective clothing and equipment required by Section A;

(3) Repair or replace required protective clothing and equipment as needed to maintain their effectiveness;

(4) Ensure that employees remove all protective clothing:

(a) At the completion of a work shift, and

(b) Only in designated change areas;

(5) Ensure that contaminated protective clothing which is to be cleaned, laundered, or disposed of, is placed in a closed container which:

(a) Is located in the designated change area, and

(b) Will prevent dispersion of lead;

(6) Inform, in writing, any person who cleans or launders protective clothing or equipment of the potentially harmful effects of exposure to lead;

(7) Ensure that a container required by Section B(5), above, is labelled as follows:

CAUTION: CLOTHING CONTAMINATED WITH LEAD. DO NOT REMOVE DUST BY BLOWING OR SHAKING. DISPOSE OF LEAD CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS; and

(8) Prohibit the removal of lead from protective clothing or equipment by blowing, shaking, or any other means which disperses lead into the air.

.08 Housekeeping.

A. Surfaces. An employer shall maintain all surfaces as free as practicable of accumulations of lead.

B. Cleaning Floors.

(1) An employer shall vacuum floors and other surfaces where lead accumulates.

(2) When vacuuming or other equally effective methods are not feasible, an employer shall use wet methods, including wet sweeping, wet shovelling, or wet brushing.

(3) Floors and other surfaces where lead accumulates

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may not be cleaned by the use of compressed air.

(4) An employer may use dry methods only when vacuuming and wet methods are not practicable.

C. Vacuuming. When vacuuming methods are used, the employer shall ensure that the vacuums are used and emptied in a manner which minimizes the re-entry of lead into the workplace.

.09 Hygiene Facilities and Practices.

A. For the purpose of this regulation, employee exposure is that exposure which would occur without regard to the use of a respirator.

B. The employer shall ensure that in an area where employees are exposed to lead above the PEL:

(1) Neither food nor beverage is present or consumed;

(2) Tobacco products are not present or used; and

(3) Cosmetics are not applied.

C. Designated Change Areas.

(1) The employer shall provide clean designated change areas for employees who work in areas where their airborne exposure to lead is above the PEL.

(2) The employer shall ensure that designated change areas are equipped with separate storage facilities for protective work clothing and equipment and for street clothes, sufficient to prevent cross-contamination.

D. Washing Facilities.

(1) The employer shall ensure that employees who work in areas where their airborne exposure to lead is above the PEL, shower or wash at the end of the work shift.

(2) The employer shall provide washing facilities in accordance with 29 CFR 1926.51(f).

(3) The employer shall ensure that employees who are required to shower or wash pursuant to Section D(1) do not leave the jobsite wearing any clothing or equipment worn during the work shift.

E. Food and Beverage Consumption Areas. The employer shall:

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(1) Provide employees who work in areas where their airborne exposure to lead is above the PEL with food and beverage consumption areas:

(a) Sufficiently removed from the affected work area; and

(b) Readily accessible to employees.

(2) Ensure that employees who work in areas where their airborne exposure to lead is above the PEL, wash their hands and face prior to eating, drinking, smoking, or applying cosmetics.

(3) Ensure that employees do not enter food and beverage consumption areas with protective work clothing or equipment unless surface lead dust has been removed by vacuuming or other cleaning methods.

F. Lavatories. The employer shall provide an adequate number of lavatory facilities which comply with 29 CFR 1926.51(c).

.10 Medical Surveillance Program.

A. General.

(1) The employer shall institute a medical surveillance program for all employees who are or may be exposed above the action level.

(2) The employer shall ensure that all medical examinations and procedures are performed by, or under the supervision of, a licensed physician.

(3) The employer shall provide the required medical surveillance, as set forth in Regulation .11:

(a) Without cost to employees, and

(b) At a reasonable time and place.

B. Biological Monitoring.

(1) Blood Lead and ZPP or FEP Level Sampling and Analysis. The employer shall make available to each employee covered under Section A(1), above, biological monitoring in the form of blood sampling and analysis for:

(a) Lead; and

(b) Zinc protoporphyrin (ZPP), or

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Free erythocite protoporphyrin (FEP) levels.

(2) The biological monitoring shall be provided on the following schedule:

(a) Before assignment, when an employee is being assigned for the first time to an area in which airborne concentrations of lead are at or above the action level;

(b) At least every 2 months during the first 6 months to each employee covered under Section A(1), above, after that, every 6 months;

(c) At least every 2 months for each employee whose last blood lead sampling and analysis indicated a blood lead level at or above 40 micrograms/100g of whole blood, until two consecutive blood samples and analyses indicate a blood lead level below 40 micrograms/100g of whole blood;

(d) At least monthly during the removal period of each employee removed from exposure to lead due to an elevated blood lead level; and

(e) At the termination of employment.

(3) Follow-up Blood Sampling Tests. When the results of a blood lead level test indicate that an employee's blood lead level exceeds the numerical criteria for medical removal under Regulation .12A(1), the employer shall provide a second (follow-up) blood sampling test within 2 weeks after receiving the results of the first blood sampling test.

(4) Accuracy of Blood Lead Level Sampling and Analysis. Blood lead level sampling and analysis provided pursuant to these regulations shall:

(a) Have an accuracy, to a confidence level of 95 percent, within plus or minus 15 percent or 6 micrograms/100ml, whichever is greater; and

(b) Be conducted by a laboratory which:

(i) Is licensed by the Centers for Disease Control (CDC), United States Department of Health and Human Services, or

(ii) Has received a satisfactory grade in blood lead proficiency testing from CDC in the prior 12 months.

(5) Employee Notification. Within 5 working days after receiving biological monitoring results, the employer shall notify in writing:

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(a) Each employee of their blood lead level; and

(b) Each employee whose blood lead level exceeds 40 micrograms/100g, that this chapter requires temporary medical removal with Medical Removal Protection benefits when an employee's blood lead level exceeds the numerical criterion for medical removal under Regulation .12A(1).

.11 Medical Examinations and Consultations.

A. Frequency. The employer shall make available medical examinations and consultations to each employee covered under Regulation .10A(1) according to the following schedule:

(1) Immediately, for each employee for whom a blood sampling test conducted at any time during the preceding 12 months indicated a blood lead level at or above 40 micrograms/100g;

(2) As soon as possible, upon notification by an employee that:

(a) The employee has developed signs or symptoms commonly associated with lead intoxication,

(b) The employee desires medical advice concerning the effects of current or past exposure to lead on the employee's ability to procreate a healthy child, or

(c) The employee has demonstrated difficulty in breathing during a respirator fit test or during respirator use; and

(3) As medically appropriate for each employee who was either:

(a) Removed from exposure to lead due to a risk of sustaining material impairment to health, or

(b) Otherwise limited pursuant to a final medical determination.

B. Content. Medical examinations made available pursuant to Section A(1), above, shall include all of the following elements:

(1) A detailed work history and a medical history, with particular attention to:

(a) Past lead exposure (occupational and non-occupational),

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(b) Personal habits (smoking, hygiene), and

(c) Past gastrointestinal, hematologic, renal, cardiovascular, reproductive, and neurological problems;

(2) A thorough physical examination, with particular attention to teeth, gums, hematologic, gastrointestinal, renal, cardiovascular, and neurological systems;

(3) Pulmonary status, if respiratory protection will be used;

(4) A blood pressure measurement;

(5) A blood sample and analysis which determines:

(a) Blood lead level which meets the requirements of Regulation .10B(4),

(b) Hemoglobin and hematocrit determinations, red cell indices, and examination of peripheral smear morphology,

(c) Zinc protoporphyrin or free erythocite protoporphyrin,

(d) Blood urea nitrogen, and

(e) Serum creatinine;

(6) A routine urinalysis with microscopic examination; and

(7) Any laboratory or other test which the examining physician deems necessary by sound medical practice.

C. The content of medical examinations made available pursuant to Section A(2) and (3), above, shall:

(1) Be determined by an examining physician; and

(2) If requested by an employee, include pregnancy testing or laboratory evaluation of male fertility.

D. Multiple Physician Review Mechanism.

(1) If the employer selects the initial physician who conducts any medical examination or consultation provided to an employee under this chapter, the employee may designate a second physician to:

(a) Review any findings, determinations, or recommendations of the initial physician; and

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(b) Conduct the examinations, consultations, and laboratory tests the second physician deems necessary to facilitate this review.

(2) The employer shall promptly notify an employee of the right to seek a second medical opinion after each occasion that an initial physician conducts a medical examination or consultation pursuant to this chapter.

(3) The employer may condition its participation in, and payment for, the multiple physician review mechanism upon the employee doing the following within 15 days after receipt of the foregoing notification, or receipt of the initial physician's written opinion, whichever is later:

(a) The employee informing the employer that he or she intends to seek a second medical opinion; and

(b) The employee initiating steps to make an appointment with a second physician.

(4) If the findings, determinations, or recommendations of the second physician differ from those of the initial physician, the employer and the employee shall ensure that efforts are made for the two physicians to resolve any disagreement.

(5) If the two physicians have been unable to reach agreement quickly, the employer and the employee, through their respective physicians, shall designate a third physician to:

(a) Review any findings, determinations, or recommendations of the prior physicians; and

(b) Conduct the examinations, consultations, and laboratory tests, and engage in discussions with the prior physicians that the third physician deems necessary to resolve disagreement of the prior physicians.

(6) The employer shall act consistently with the findings, determinations, and recommendations of the third physician, unless the employer and the employee reach an agreement which is otherwise consistent with the recommendations of at least one of the three physicians.

E. Information Provided to Examining and Consulting Physicians.

(1) The employer shall provide the initial physician conducting a medical examination or consultation under this chapter the following information:

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(a) A copy of this chapter;

(b) A description of the affected employee's duties as they relate to the employee's lead exposure;

(c) The employee's exposure level or anticipated exposure level to lead and to any other toxic substance (if applicable);

(d) A description of personal protective equipment used, or to be used;

(e) Prior blood lead determinations; and

(f) Prior written medical opinions concerning the employee which are in the employer's possession or control.

(2) The employer shall provide the foregoing information to a second or third physician conducting a medical examination or consultation under this chapter upon request either by the second or third physician, or by the employee.

F. Written Medical Opinions.

(1) The employer shall obtain and furnish to the employee a copy of a written medical opinion from each examining or consulting physician which contains the following information:

(a) The physician's opinion as to whether the employee has any detected medical condition which would place the employee at increased risk of material impairment of the employee's health from exposure to lead,

(b) Any recommended special protective measures to be provided to the employee,

(c) Limitations to be placed upon the employee's exposure to lead,

(d) Any recommended limitation upon the employee's use of respirators, including, if a physician determines that the employee cannot wear a negative pressure respirator, a determination of whether the employee can wear a powered air purifying respirator, and

(e) The results of the blood lead determinations;

(2) The employer shall instruct each examining and consulting physician:

(a) Not to reveal either in the written opinion, or in any other means of communication with the employer, any finding, including laboratory results, or diagnoses unrelated to an employee's occupational exposure to lead, and

(b) To advise the employee of any medical condition, occupational or non-occupational, which dictates further medical examination or treatment.

G. Alternate Physician Determination Mechanism. The employer and the employee or authorized employee representative may agree to use any expeditious alternate physician determination mechanism in place of the multiple physician review mechanism provided by this chapter, provided that the alternate mechanism satisfies the other requirements contained in this chapter.

H. Chelation.

(1) The employer shall ensure that any person whom he retains, employs, supervises, or controls does not engage in prophylactic chelation of any employee at any time.

(2) If therapeutic or diagnostic chelation is to be performed by any person in Section H(1), above, the employer shall ensure that:

(a) It is done:

(i) Under the supervision of a licensed physician,

(ii) In a clinical setting,

(iii) With thorough and appropriate medical monitoring; and

(b) The employee is notified in writing before its occurrence.

.12 Medical Removal Protection.

A. Temporary Medical Removal and Return of an Employee.

(1) **Temporary Removal Due to Elevated Blood Lead Levels.** The employer shall remove an employee from work having an exposure to lead at or above the action level on each occasion that:

(a) A periodic and a follow-up blood sampling test conducted pursuant to Regulations .10 and .11 indicates that the employee's blood lead level is at or above 60 micrograms/100g; or

(b) The average of the last three blood sampling tests conducted, or the average of all blood sampling tests conducted over the previous 6 months, whichever is longer, indicates a blood lead level at or above 50 micrograms/100g of whole blood, unless the last blood sampling test indicates a blood level at or below 40 micrograms/100g of whole blood.

(2) Temporary Removal Due to a Final Medical Determination.

(a) For the purposes of Section A(2), the phrase "final medical determination" means the outcome of either the multiple physician review mechanism or the alternate medical determination mechanism used pursuant to the medical surveillance provisions in Regulation .11, above.

(b) The employer shall remove an employee from work having an exposure to lead at or above the action level on each occasion that a final medical determination results in a medical finding, determination, or opinion that the employee has a detected medical condition which places the employee at increased risk of material health impairment from exposure to lead.

(c) When a final medical determination results in any recommended special protective measures for an employee, or limitations on an employee's exposure to lead, the employer shall implement the recommendations and act consistently with it.

(3) Return of the Employee to Former Job Status.

(a) The employer shall return an employee to his or her former job status in accordance with the following schedule:

(i) For an employee removed pursuant to Section A(1), when two consecutive blood sampling tests indicate that the employee's blood lead level is at or below 40 micrograms/100g of whole blood;

(ii) For an employee removed pursuant to Section A(2), when a subsequent final medical determination results in a medical finding, determination, or opinion that the employee no longer has a detected medical condition which places the employee at increased risk of material health impairment from exposure to lead.

(b) For the purposes of this subsection, the requirement that an employer return an employee to the employee's former job status is not intended to expand upon or restrict any rights an employee has or would have had, absent temporary medical removal, to a specific job classification or position

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under the terms of a collective bargaining agreement.

(4) Removal of Other Employee Special Protective Measure or Limitations. The employer shall remove any limitations placed on an employee or end any special protective measures provided to an employee pursuant to a final medical determination when a subsequent final medical determination indicates that the limitations or special protective measures are no longer necessary.

(5) Employer Options Pending a Final Medical Determination. When a multiple physician review mechanism, or alternate medical determination mechanism used pursuant to Regulation .11, has not yet resulted in a final medical determination with respect to an employee, the employer shall act as follows:

(a) Removal. The employer may remove the employee from exposure to lead, provide special protective measures to the employee, or place limitations upon the employee, consistent with the medical findings, determinations, or recommendations of any of the physicians who have reviewed the employee's health status.

(b) Return. The employer may return the employee to his or her former job status, end any special protective measures provided to the employee, and remove any limitations placed upon the employee, consistent with the medical findings, determinations, or recommendations of any of the physicians who have reviewed the employee's health status, with two exceptions:

(i) If the initial removal, special protections, or limitation of the employee resulted from a final medical determination which differed from the findings, determinations, or recommendations of the initial physician; or

(ii) If the employee has been on removal status for the preceding 18 months due to an elevated blood lead level, the employer shall await a final medical determination.

B. Medical Removal Protection Benefits.

(1) Definition of Medical Removal Protection Benefits. For the purposes of this section, the requirement that an employer provide medical removal protection benefits means that an employer shall maintain the earnings, seniority, and other employment rights and benefits of an employee as though the employee had not been removed from normal exposure to lead or otherwise limited.

(2) Provision of Medical Removal Protection Benefits. The employer shall provide to an employee up to 18 months of

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medical removal protection benefits on each occasion that an employee is removed from exposure to lead or otherwise limited pursuant to this chapter.

(3) Follow-up Medical Surveillance During the Period of Employee Removal or Limitation. During the period of time that an employee is removed from normal exposure to lead, or otherwise limited, the employer may condition the provision of medical removal protection benefits upon the employee's participation in follow-up medical surveillance made available pursuant to this regulation.

(4) Workers' Compensation Claims. If a removed employee files a claim for workers' compensation payments for a lead-related disability:

(a) The employer shall continue to provide medical removal protection benefits pending disposition of the claim;

(b) To the extent that an award is made to the employee for earnings lost during the period of removal, the employer's medical removal protection obligation shall be reduced by the amount of the award; and

(c) The employer shall receive no credit for workers' compensation payments received by the employee for treatment-related expenses.

(5) Other Credits. The employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that the employee receives:

(a) Compensation for earnings lost during the period of removal either from a publicly or employer-funded compensation program; or

(b) Income from employment with another employer made possible by virtue of the employee's removal.

(6) Employees Whose Blood Lead Levels Do Not Adequately Decline Within 18 Months of Removal.

(a) The employer shall take the measures prescribed by Section B(6)(b) with respect to any employee:

(i) Removed from exposure to lead due to an elevated blood lead level; and

(ii) Whose blood lead level has not declined within the past 18 months of removal so that the employee has been returned to the employee's former job status.

(b) The employer shall:

(i) Make available to the employee a medical examination pursuant to this chapter to obtain a final medical determination with respect to the employee;

(ii) Ensure that the final medical determination obtained indicates whether the employee may be returned to his or her former job status, and if not, what steps should be taken to protect the employee's health;

(iii) When the final medical determination has not yet been obtained, or once obtained indicates that the employee may not yet be returned to the employee's former job status, continue to provide medical removal protection benefits to the employee until either the employee is returned to former job status, or a final medical determination is made that the employee is incapable of ever safely returning to the employee's former job status.

(c) When the employer acts pursuant to a final medical determination which permits the return of the employee to the employee's former job status despite what would otherwise be an unacceptable blood lead level, later questions concerning removing the employee again shall be decided by a final medical determination.

(d) The employer need not automatically remove the employee pursuant to the blood lead level removal criteria provided by this regulation.

(7) Voluntary Removal or Restriction of An Employee. Where an employer, although not required by this regulation to do so, removes an employee from exposure to lead or otherwise places limitations on an employee due to the effects of lead exposure on the employee's medical condition, the employer shall provide medical removal protection benefits to the employee equal to that required by Section B(2).

.13 Employee Information and Training.

A. Training Program.

(1) Each employer who has a jobsite in which there is a potential exposure to airborne lead at any level shall inform employees of this chapter.

(2) The employer shall:

(a) Institute a training program for employees subject to:

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(i) Lead exposure at or above the action level, or

(ii) The possibility of skin or eye irritation; and

(b) Ensure their participation in the training.

(3) The employer shall provide initial training for those employees covered by Section A(2), above, before the time of initial job assignment.

(4) The training program shall be repeated at least annually for each employee.

(5) The employer shall ensure that each employee is informed of:

(a) The content of this chapter;

(b) The specific nature of the operations which could result in exposure to lead above the action level;

(c) The purpose, proper selection, fitting, use, and limitation of respirators;

(d) The purpose and a description of:

(i) The medical surveillance program, and

(ii) The medical removal protection program;

(e) The adverse health effects associated with excessive exposure to lead, with particular attention to the adverse reproductive effects on both males and females;

(f) The engineering controls and work practices associated with the employee's job assignment;

(g) The contents of any compliance program in effect; and

(h) Instructions to employees that chelating agents should not:

(i) Routinely be used to remove lead from their bodies, and

(ii) Be used at all except under the direction of a licensed physician.

(6) The employer shall:

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(a) Obtain from the Commissioner, and include as part of the training program, the materials pertaining to the Maryland Occupational Safety and Health Act, the regulations issued under the Act, and this chapter; and

(b) Distribute them to employees.

B. Access to Information and Training Materials.

(1) The employer shall make readily available to all affected employees a copy of this chapter.

(2) The employer shall provide to the Commissioner, upon request, all materials relating to the employee information and training program.

.14 Signs.

A. General.

(1) The employer may use signs required by other statutes, regulations, or ordinances in addition to, or in combination with, signs required by this regulation.

(2) The employer shall ensure that no statement appears on or near any sign required by this regulation which contradicts or detracts from the meaning of the required sign.

B. Signs.

(1) The employer shall post the following warning sign in each work area where the PEL is exceeded:

WARNING

HAZARD

LEAD WORK AREA

NO SMOKING, EATING OR DRINKING

(2) The employer shall ensure that signs required by this regulation are illuminated and cleaned as necessary so that the legend is readily visible.

.15 Recordkeeping.

A. Initial Determination and Exposure Monitoring.

(1) The employer shall establish and maintain an accurate record of:

(a) Initial determinations; and
(b) All monitoring required in Regulation .04.

(2) This record shall include:

(a) The information required in Regulation .04;

(b) For each sample taken:

(i) The date, or dates,

(ii) The number of samples,

(iii) The duration of sampling,

(iv) The location,

(v) The results of each sample taken, and

(vi) Where applicable, a description of the sampling procedure used to determine representative employee exposure;

(c) A description of the sampling and analytical methods used and evidence of their accuracy;

(d) The type of respiratory protective devices worn, if any;

(e) Name, social security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent; and

(f) The environmental variables that could affect the measurement of employee exposure.

(3) The employer shall maintain the initial determination and exposure monitoring records for the longer of:

(a) 40 years; or

(b) The duration of employment plus 20 years.

B. Medical Surveillance.

(1) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by Regulations .10 and .11.

(2) This record shall include:

(a) The name, social security number, and a description of the duties of the employee;

(b) One copy of each physician's written opinion;

(c) Results of any airborne exposure monitoring conducted for that employee and the representative exposure levels supplied to the physician; and

(d) Any employee medical complaints related to exposure to lead.

(3) The employer shall keep, or ensure that the examining physician keeps, the following medical records:

(a) A copy of the medical examination results, including medical and work history, required under Regulations .10 and .11;

(b) A description of the laboratory procedures together with a copy of any standards or guidelines used to interpret the test results or references to that information; and

(c) A copy of the results of biological monitoring.

(4) The employer shall maintain or ensure that the physician maintains the medical records for at least 40 years, or for the duration of employment plus 20 years, whichever is longer.

C. Medical Removals.

(1) The employer shall establish and maintain an accurate record for each employee removed from current exposure to lead pursuant to Regulation .12.

(2) Each record shall include:

(a) The name and social security number of the employee;

(b) The date of each occasion on which the employee was removed from exposure to lead, together with the corresponding date on which the employee was returned to his or her former job status;

(c) A brief explanation of how each removal was, or is being, accomplished; and

(d) A statement with respect to each removal indicating whether the reason for the removal was an elevated blood lead level.

(3) The employer shall maintain each medical removal record for at least the duration of an employee's employment.

D. Availability.

(1) Upon request, the employer shall make all records required by this chapter available to the Commissioner for examination and copying.

(2) Upon request, the employer shall make environmental monitoring, biological monitoring, and medical removal records required by this chapter available to affected employees or their authorized employee representative for inspection and copying.

(3) Upon request, the employer shall make an employee's medical records required to be maintained by this regulation available to the affected employee or former employee, or to a physician or other individual designated by the affected or former employee for examination and copying.

E. Transfer of Records.

(1) When the employer ceases to do business:

(a) The successor employer shall receive and retain all records required by this chapter.

(b) If there is no successor employer to receive the records required by this chapter and to retain them for the prescribed retention period, the employer shall transmit these records to the Commissioner.

(2) At the expiration of the record retention period prescribed by this chapter, the employer shall:

(a) Notify the Commissioner at least 3 months before the disposal of the records; and

(b) Transmit the records to the Commissioner, if requested within the period.

.16 Observation of Monitoring.

A. Employee Observation. The employer shall provide affected employees or their designated representative an opportunity to observe monitoring of employee exposure to lead conducted pursuant to Regulation .04.

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B. Observation Procedures.

(1) When observation of the monitoring of employee exposure to lead requires entry into an area where the use of respirators, protective clothing, or equipment is required, the employer shall:

(a) Provide the observer with and ensure the use of the respirators, clothing, and equipment; and

(b) Require the observer to comply with all other applicable safety and health procedures.

(2) Without interfering with the monitoring, observers shall be entitled to:

(a) Receive an explanation of the measurement procedures;

(b) Observe all steps related to the monitoring of lead performed at the place of exposure; and

(c) Record the results obtained or receive copies of the results when returned by the laboratory.

Administrative History

Effective date: January 16, 1984 (11:1 Md. R. 43)
Chapter recodified from COMAR 09.12.32C to 09.12.32 (13:11 Md. R. 1272)

Regulations .01-.16 amended effective November 28, 1988 (15:24 Md. R. 2768-2769)

OCCUPATIONAL HEALTH HAZARDS

LEAD in CONSTRUCTION

If you are a construction worker, you should be aware of the hazards of lead exposure. You may be exposed to lead in areas where cutting, sanding, burning, melting, abrasive blasting, grinding, soldering, welding, painting or paint removal are occurring. These operations may release lead in the form of dust, fumes or mists into the air or onto surrounding surfaces.

Lead is a toxic substance which may enter the body by breathing or swallowing lead dusts, fumes or mists. If food, cigarettes, or your hands have lead on them, lead may be swallowed while eating, drinking or smoking. Once in the body, lead enters the bloodstream and may be carried to all parts of the body. The body can eliminate some of this lead, but if there is continued lead exposure, the body absorbs and stores more lead than it can eliminate. This stored lead may cause irreversible damage to cells, organs and whole body systems. After exposure stops, it takes months or even years for all lead to be removed from the body.

What are the symptoms?

Exposure to lead may affect each person differently. Even before symptoms appear, lead may cause unseen injury to the body. During early stages of lead poisoning, mild symptoms may be overlooked as everyday medical complaints, including:

Loss of appetite
Trouble sleeping
Irritability
Fatigue
Headache
Joint and muscle aches
Metallic taste
Decreased sex drive
Lack of concentration
Moodiness

Brief intense exposure or prolonged overexposure may result in severe damage to your blood-forming, nervous, urinary and reproductive systems. Some noticeable medical problems include:

Stomach pains
Wrist or foot drop
High blood pressure
Nausea
Tremors
Convulsions or seizures
Anemia
Constipation or diarrhea

Prevention

- *RECOGNIZE that lead may be a health hazard.*
- *BE AWARE OF employer and employee responsibilities under the lead in construction standard.*
- *CHECK to see that an initial lead determination has been made at your worksite.*
- *WEAR appropriate personal protective equipment and clothing.*
- *PRACTICE good personal hygiene.*
- *DO NOT eat, drink or smoke in a lead-contaminated area.*
- *DO NOT take lead-contaminated clothing home.*

Maryland Occupational Safety and Health

Effective January, 1984, the Maryland Lead in Construction Standard extends protection to construction workers. The standard requires that before beginning any construction work which may result in lead exposure, an employer must determine if any employee may be exposed to lead at or above the action level (30 μg/m³). If so, the employer must conduct air sampling at the start of the operation which may involve lead exposure. Depending on the level of exposure to airborne lead, the standard requires various protective measures:

LEVELS ABOVE THE PERMISSIBLE EXPOSURE LEVEL - (50 μg/m³)

- Conduct periodic air sampling
- Use feasible engineering and work practice controls
- Provide appropriate respirators, protective clothing and personal protective equipment
- Institute a housekeeping and personal hygiene program
- Provide areas for eating and drinking
- Provide washing and lavatory facilities
- Institute a medical surveillance program
- Conduct employee training
- Post warning signs
- Maintain records

LEVELS BELOW THE PERMISSIBLE EXPOSURE LEVEL - (50 μg/m³) BUT ABOVE THE ACTION LEVEL - (30 μg/m³)

- Conduct periodic air sampling
- Institute a housekeeping program
- Provide washing and lavatory facilities
- Provide a medical surveillance program
- Conduct employee training
- Maintain records

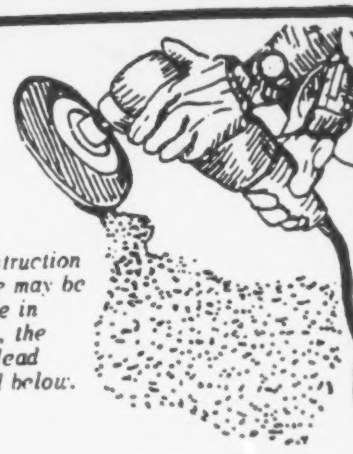
ANY LEVEL OF LEAD

- Institute a housekeeping program
- Provide washing and lavatory facilities
- Inform employees of the requirements of this standard

This fact sheet is intended to summarize the Maryland Lead in Construction Standard and is not to be interpreted as the complete requirements under the standard. For a complete copy of the standard, contact:

MARYLAND OCCUPATIONAL SAFETY AND HEALTH
DIVISION OF LABOR AND INDUSTRY
501 ST. PAUL PLACE
BALTIMORE, MARYLAND 21202
(301)333-4164

OCCUPATIONAL HEALTH STANDARD



LEAD in CONSTRUCTION

The Maryland Lead in Construction Standard requires that before beginning any construction work which may result in lead exposure, an employer must determine if any employee may be exposed to lead at or above the action level (30 µg/m³). This determination must be in writing and be posted. If any employee may be exposed at or above the action level, the employer must conduct air sampling at the start of the operation which may involve lead exposure. The major requirements of the Lead in Construction Standard are detailed below.

Any Airborne Lead	At or Above Action Level (30 µg/m³)	Above PEL (50 µg/m³)	
			CONDUCT EXPOSURE MONITORING
	X	X	– at start of job
	X		– every six months
		X	– every quarter
X	X	X	– when job change may result in new or additional exposure
X	X	X	– if employee complains of symptoms related to lead exposure
			Whenever exposure monitoring is performed, employee must be provided with written notice of results.
		X	USE FEASIBLE ENGINEERING AND WORK PRACTICE CONTROLS
		X	DEVELOP WRITTEN COMPLIANCE PROGRAM AND REVIEW EVERY SIX MONTHS
			PROVIDE RESPIRATORY PROTECTION
		X	– as interim measure
		X	– to supplement engineering and work practice controls
		X	– when controls not feasible
		X	– upon employee request
		X	*When respirators are provided, a respiratory protection program in accordance with 29 CFR 1910.134 (b), (d), (e) and (f) must be established and fit testing must be conducted. A medical examination must be provided if an employee exhibits difficulty breathing during respirator fit test or use. An employer must provide a powered air purifying respirator at the employee's request.*
		X	PROVIDE APPROPRIATE PROTECTIVE CLOTHING AND EQUIPMENT
		X	– clean clothing weekly (daily if exposure above 200 µg/m³)
		X	– assure protective clothing removed at end of shift
		X	– assure appropriate laundering or disposal
		X	– clean and repair equipment
			Protective clothing and equipment must also be provided when the possibility of skin or eye irritation exists.
X	X	X	MAINTAIN ALL SURFACES AS FREE OF LEAD AS POSSIBLE
X	X	X	– prohibit cleaning by compressed air
X	X	X	– use vacuuming or other equally effective cleaning methods
X	X	X	– use wet methods when vacuuming not feasible
		X	PROHIBIT EATING, DRINKING AND SMOKING IN JOB AREA
		X	– provide eating and drinking area
		X	– assure employees wash prior to eating or drinking
		X	– assure employees do not enter eating area in lead contaminated clothing

Maryland Occupational Safety and Health

Any Airborne Lead	At or Above Action Level (30 µg/m³)	Above PEL (50 µg/m³)	
		X	PROVIDE CHANGE AREAS AND STORAGE
		X	– assure employees do not leave job area in contaminated clothes
X	X	X	PROVIDE WASH FACILITIES [29 CFR 1926.51 (f)]
		X	– be sure employees wash at end of shift
X	X	X	PROVIDE LAVATORY FACILITIES [29 CFR 1926.51 (c)]
	X	X	INSTITUTE MEDICAL SURVEILLANCE PROGRAM
			Biological monitoring (Blood Lead + ZPP or FEP Levels)
	X	X	– prior to assignment
	X	X	– every two months for first six months of exposure
	X	X	– written notification of results to employee
			Medical examination must be provided when exposure is above action level and employee has developed signs or symptoms associated with lead intoxication, desires advice on effects of exposure on ability to procreate, or employee's blood lead level is at or above 40µg/100g. A medical examination must also be provided when an employee exhibits difficulty breathing during respirator fit test or use.
			PROVIDE MEDICAL REMOVAL AND PROTECTION
	X	X	– if blood lead level is at or above 60 µg/100g
	X	X	– if average of last three blood tests is at or above 50 µg/100g
	X	X	– if indicated by a final medical determination
X	X	X	INFORM EMPLOYEES OF STANDARD
X	X	X	– make available a copy of standard
	X	X	PROVIDE TRAINING PROGRAM
			Training must also be made available if the possibility of skin or eye irritation exists.
		X	POST WARNING SIGNS
			MAINTAIN RECORDS OF
X	X	X	– initial determination
X	X	X	– exposure monitoring
	X	X	– medical surveillance
	X	X	– medical removal

This chart is intended to summarize the Maryland Lead in Construction Standard and is not to be interpreted as the complete requirements under the standard. For a complete copy of the standard contact:

MARYLAND DIVISION OF LABOR AND INDUSTRY
MARYLAND OCCUPATIONAL SAFETY AND HEALTH
501 ST. PAUL PLACE — 9th FLOOR
BALTIMORE, MARYLAND 21202-2272
(301)333-4164

revised October 1989

HESIS Fact Sheet No. 4

Hazard Evaluation System & Information Service ☐ 2151 Berkeley Way Berkeley, CA 94704 ☐ 415-540-3138

State of California: George Deukmejian, Governor; Department of Health Services: Kenneth W. Kizer, MD,MPH, Director; Department of Industrial Relations: Ron Rinaldi, Director.

Lead

Health Hazard Summary: *Lead overexposure can damage your nervous system, kidneys, reproductive system, blood-forming system, and digestive system. Overexposure to lead is still a major problem among workers in California.*

HOW TO FIND OUT IF YOU ARE WORKING WITH LEAD

Workers in over 120 different occupations are exposed to lead. A few industries where significant lead exposure is common are:

Battery manufacture
Construction and demolition
Radiator repair
Lead smelting
Casting with lead, brass, or bronze
Foundry operations

You Have a Right to Know: Under California's Hazard Communication Standard (*GISO 5194*), your employer must tell you if you are working with any hazardous substances, including lead, and must train you to work with them safely.

If you think you may be exposed to hazardous chemicals at work, ask to see the Material Safety Data Sheets (MSDSs) for the products in your work area. An MSDS lists the hazardous chemical contents of a product, describes its health and safety hazards, and gives methods for its safe use, storage, and disposal.

This Fact Sheet is an aid for worker training programs. It does not take the place of a Material Safety Data Sheet.

HOW LEAD ENTERS AND AFFECTS YOUR BODY

Lead can enter your body in two ways: inhalation and ingestion.

You can inhale lead when lead dust, mist, or fumes are present in the air you breathe. This is often the main way that lead gets into your body.

Particles of lead can be swallowed if lead gets on your hands, clothing, or beard, or if it gets in your food or drinks. If you smoke a cigarette that has lead particles on it, you can inhale and swallow the lead. For these reasons it is important not to eat, drink, or smoke in your work area. It is also important to wash your hands and face before eating, drinking, or smoking.

Once lead gets into your body, it stays there for a long time. Lead can build up in your body if you are exposed even to small amounts of lead for a long time. Too much lead in your body can harm your health.

In general, the more lead in your body, the more likely that harm will occur. The amount of lead that can cause health effects varies from one person to another (see "Blood Lead Level Testing," page 2).

Lead can harm your:

nervous system
reproductive system
kidneys
blood-forming system
digestive system

Nervous System: Too much lead can damage your brain and nerves. This damage may be permanent. If your brain has been affected, you might feel tired and have headaches. More serious symptoms include feeling anxious and irritable, and having difficulty sleeping or concentrating. Severe symptoms include loss of short-term memory, depression, and confusion. Lead can also harm the nerves in your arms and legs, causing weakness in the hands, wrists, or ankles, and mild hand tremors.

Reproduction: Lead can damage the reproductive systems of both men and women, and may harm unborn children. In men, overexposure can cause impotence, lower sex drive, reduced sperm count, and abnormal sperm. In women, overexposure may result in reduced fertility and lower sex drive. Stillbirth or miscarriage may be more likely if either the woman or (possibly) the man is exposed to lead before or during pregnancy. Children whose mothers were exposed to lead at work during pregnancy may have learning difficulties. Lead may cause minor birth defects in humans.

Kidneys: Being overexposed to lead for a long time can harm your kidneys. Damage can occur without warning, and may be permanent. Medical tests can be performed to find out if your kidneys are being harmed.

Blood-Forming System: Lead overexposure can cause *anemia*, an inability to produce enough red blood cells to supply your muscles, brain, and other tissues with the oxygen they need. If you have anemia, you might feel weak and tired, and have little energy. You might not notice any symptoms, but a doctor can test your blood for anemia.

Gastro-Intestinal Tract: Moderate symptoms of lead poisoning include nausea, constipation, and loss of appetite. Severe symptoms of lead poisoning can include sharp pains in the stomach or intestines. This is called lead colic.

BLOOD LEAD LEVEL TESTING

The amount of lead in your blood can be measured to find out if you have been overexposed. The amount measured in your blood is called your Blood Lead Level, or BLL. The BLL that is associated with symptoms varies from one person to another. Obvious symptoms of lead toxicity may appear in the most sensitive individuals with BLLs as low as 40 micrograms of lead per deciliter of blood (40 μg/dl). In other people, symptoms may not begin until the BLL reaches 100 μg/dl. Subtle effects may occur even at BLLs below 40 μg/dl. In general, the number and seriousness of symptoms increases with the amount of lead in your blood.

For more information about medical tests, read "Your Legal Rights."

YOUR LEGAL RIGHTS

All workers have the right to a safe and healthy workplace. You also have the right to see and copy your medical records and records of your exposure to toxic substances. Your employer must keep these records for at least 30 years after the end of your employment.

There are also rules which specifically regulate your exposure to lead. If you work in an industry with lead exposure, except construction or agriculture, you are covered by the Cal/OSHA Lead Standard (*GISO 5216*). *See page 3 for regulations for construction workers.*

The Lead Standard

The lead standard contains important provisions to protect you and your co-workers. Some key parts of this complex standard are described below.

1. Legal Exposure Limits: Lead in Air

If lead is used in your workplace, the amount of lead in the air in the work area must be measured at least once.

Action Level (AL): The *Action Level* for lead is 30 micrograms of lead per cubic meter of air (30 $\mu g/m^3$), as an average over an 8-hour workday. If air levels are greater than the Action Level, then your employer must:

- measure the level of lead in the air every 6 months;
- tell you, in writing, the amount of lead you are exposed to;
- establish a medical surveillance program (see page 3) if you or your co-workers are exposed to more than the Action Level for more than 30 days each year.

Permissible Exposure Limit (PEL): The *Permissible Exposure Limit* for lead is 50 $\mu g/m^3$, averaged over an 8-hour workday. Legally, your exposure to lead must not exceed the PEL on any day. If air lead levels are greater than the PEL, your employer must:

- measure the level of lead in the air every 3 months;
- tell you, in writing, the results of air monitoring and what will be done to reduce exposures;
- provide you with proper respirators until the exposure has been lowered by other controls;
- prohibit eating, drinking, smoking, and applying make-up in areas where lead levels are above the PEL;
- be sure that you and your co-workers wash your hands and face before eating, drinking, smoking, or applying make-up;
- provide a change room, lunchroom, and shower facility at no cost to you or your co-workers.

2. Medical Surveillance

If you are exposed to lead at or above the Action Level, your employer must offer medical evaluations, at no cost to you or your co-workers, to make sure your health is protected. Generally, your employer will choose the physician who conducts medical evaluations under the

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lead standard – unless you and your employer have agreed on some other physician. You have the right to a second medical opinion from a physician of your choice if you are not satisfied with an exam by a physician chosen by your employer.

A medical evaluation must include a full work and medical history, a complete physical exam, and laboratory tests. Two important lab tests are the blood lead level (BLL) and zinc protoporphyrin (ZPP) tests.

Table 1, below, describes what must be done when the amount of lead in the air or the amount in your blood reaches certain levels.

You can also request a complete medical evaluation if you are exposed above the Action Level and develop signs or symptoms of lead poisoning, or if you are planning to have children, or if you have difficulty in breathing while using a respirator.

The physician cannot tell your employer any medical findings that are unrelated to your exposure to lead. You are not required to participate in any of the medical procedures or tests that your employer must make available to you. However, these medical evaluations are very important for protecting your health. Therefore, you are strongly encouraged to participate in the medical program.

3. **Medical Removal Protection**

The Medical Removal Protection section of the Lead Standard protects you if you are temporarily removed from work due to a high BLL. Your employer must continue to pay you your usual salary while you are removed from work. Your benefits and seniority must also be fully maintained.

Standards for Construction Workers

Although the full Lead Standard does not cover construction and agricultural workers, in California these workers *are* covered by the same Permissible Exposure Limit as other workers (50 μg/m^3). By law, all employers must teach their employees how to recognize and avoid unsafe conditions. Your employer must also teach you the health and safety regulations that apply to your workplace.

Renovation and demolition work are important sources of severe lead poisoning cases. You can be exposed to lead if you weld or torch-cut on lead-painted metal or if you strip paint that contains lead. To prevent lead overexposure, assume that any untested paint contains lead.

If you are concerned about your exposure to lead, or if you develop signs of lead toxicity, see your doctor. Ask that a medical evaluation for possible lead overexposure be done, as described in the "Medical Surveillance" section on page 3.

Workers' Compensation

The Workers' Compensation law is especially important

Table 1

Situation	What Must Be Done
Before assignment to a job with an exposure at or above the AL	A medical evaluation.
Exposure to lead at or above the AL for more than 30 days per year	Test BLL and ZPP every 6 months.
A BLL of 40 μg/dl or greater	Test BLL and ZPP every 2 months until two samples in a row are less than 40 μg/dl; and Employer must notify you in writing of the BLL and Medical Removal Protection benefits (see "Medical Removal Protection" section); and A medical evaluation every year.
A BLL of 60 μg/dl or average BLL of 50 μg/dl over the last 6 months	You must be removed from areas with lead exposure until your BLL is less than 40 μg/dl (see "Medical Removal Protection" section); and Test BLL and ZPP every month.

for lead-exposed workers who are not covered by the Lead Standard. Any worker who has an injury or illness as a result of work may be entitled to workers' compensation benefits. Workers' Compensation covers the costs of medical care, including medical diagnosis of illness. If you cannot work because of a work-related illness, you are eligible for temporary disability payments, which cover a part of your usual salary. If you are permanently disabled by your work, you are entitled to permanent disability benefits and may also be entitled to vcational rehabilitation.

CONTROLLING YOUR EXPOSURE TO LEAD

The best way to prevent lead or any toxic substance from causing harm is to minimize or prevent exposure. Proper engineering controls (a local exhaust ventilation system, for example) are often the best way to control lead exposures. Below are some other ways of controlling exposure.

Personal Protective Equipment: When engineering controls cannot reduce lead exposures to a safe level, you must wear a respirator and your employer must set up a respiratory protection program (*GISO 5144* and *5126*). This program must include "fit-testing" to make sure your respirator really fits and protects you. You must also be trained to use and take care of your respirator. *Proper use of your respirator is very important for protecting your health.*

In addition to respirators, other protective equipment or clothing may also be required.

Safer Work Practices: A special vacuum or a wet mop should be used to remove lead dust from floors. *Never dry sweep or blow the dust away with compressed air.* The vacuum must be fitted with a HEPA filter (High-Efficiency Particulate Accumulator). A HEPA filter collects very fine lead dust particles. This fine dust is especially easy to breathe into your lungs. A vacuum without a HEPA filter will blow this dust back into the workroom air in its exhaust stream.

Lead from the workplace can be carried into your car and your home, and could harm your family – especially your children. Therefore, after showering, don't wear your work clothing and shoes home.

RESOURCES

- **California workers, employers, and health care professionals** *who have questions about the health effects of workplace chemicals can contact HESIS at 415/540-3014. You may call collect from within California.*

- **Employees** *who need information or assistance concerning workplace health and safety regulations, or who want to file a complaint, can contact the nearest office of Cal/OSHA:*

  Bakersfield
  Chico
  Concord
  Covina
  Downey
  Eureka
  Fresno
  Long Beach
  Los Angeles
  Modesto
  Oakland
  Redding
  Sacramento
  Salinas
  San Bernardino
  San Diego
  San Francisco
  San Jose
  San Mateo
  Santa Ana/Anaheim
  Santa Fe Springs
  Santa Rosa
  Stockton
  Ukiah
  Van Nuys
  Ventura
  Vernon/Commerce

  For the address and telephone number of the Cal/OSHA office nearest you, look in the government section near the front of the telephone book, under "California, Department of Industrial Relations, Division of Occupational Safety and Health."

- *Other resources for* **employees** *may include your supervisor, your union, your company health and safety officer, your doctor, or your company doctor.*

- **Employers** *who want free, non-enforcement assistance to evaluate and improve workplace health and safety can contact the nearest office of the Cal/OSHA Consultation Service:*

Downey	213/861-9993
Fresno	209/454-1295
Sacramento	916/920-6131
San Diego	619/279-3771
San Francisco	415/557-1715

- *In a* **medical emergency**, *call 9-1-1, or contact the nearest Poison Control Center. See "Crisis Hotlines" listed near the front of your local phone book.*

- *HESIS has produced a more detailed and technical booklet on lead for employers and health and safety trainers, and has written medical guidelines for physicians. HESIS also produces fact sheets, booklets, medical treatment guidelines for physicians, and technical documents on other workplace chemicals. All publications are free. Some are available in Spanish or other languages. For a publications list and order form, call 415/540-3138, or write: HESIS, 2151 Berkeley Way, Room 504, Berkeley CA 94704.*

The Center to Protect Workers' Rights

ALLIANCE
TO END

DEC 20 1993

[illegible]

Model Specifications for the Protection of Workers from Lead on Steel Structures

1993

111 Massachusetts Avenue, N.W.
Suite 509 • Washington, D.C.
20001 • (202) 962-8490

The Center to Protect Workers' Rights (CPWR) is the research arm of the Building and Construction Trades Department, AFL-CIO. CPWR is uniquely situated to serve workers, contractors, and the scientific community. This publication was developed by the Working Group for Model Specifications convened by CPWR in collaboration with the Occupational Health Foundation and the Steel Structures Painting Council. It was made possible by grant number U60/CCU306169 from the National Institute for Occupational Safety and Health (NIOSH). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of NIOSH.

Copies of this report may be obtained by writing The Center to Protect Workers' Rights, 111 Massachusetts Ave. NW., Washington, DC 20001, or by calling the Occupational Health Foundation 202-887-1980. (Report No. OSH3-93) October 1993. Third printing December 1993.

Abbreviations

CFR	Code of Federal Regulations
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
LHASP	Lead health and safety program
NIOSH	National Institute for Occupational Safety and Health
OSHA	U.S. Occupational Safety and Health Administration
PEL	Permissible exposure limit
SSPC	Steel Structures Painting Council
ug/dl	Microgram(s) per deciliter
ug/m^3	Microgram(s) per cubic meter

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TITLE: Lead Poisoning Reporting Form

Who uses this material?

Program staff - clerical, outreach, nursing coordinators, also mailed out to primary care providers and laboratories.

What is the purpose of the material?

To obtain accurate and complete reporting of blood lead tests.

How is the material used in the program operation?

To record lead results called into program; as a reporting form for providers and labs.

How and why was the material developed?

Developed by nursing coordinators to obtain complete information needed to process referrals.

Based on evaluations are there any plans for modification of the materials?

Revised 2-28-94 to include social security number as another unique identifier for child.

Recommendations for modifying or improving the material:

No

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Today's Date ________
Time ________
Taken by ________

LEAD POISONING REPORTING FORM

Physician Name____

Clinic Name (if applicable)________________________________

Address____________________________ Phone:____________

Name of Patient______________________________________
last name first name

Date of Birth__________ Social Security Number:____________

Race W B Asian Native American Other Unknown

Ethnicity Hispanic Non-Hispanic Unknown Sex M F

Mother's Name (or) Guardian:______________________________

Father's Name (or) Guardian:______________________________

Address____

City_______________ State____ Zip______ Phone: _______

Lead Level_______ Venous_____ Capillary_____

Date of test_________ Lab used______________________

Treatment Plan____

____

____

DATE FOR NEXT LEAD LEVEL

Please mail or call this information to:

Kris White, R.N. or Mary Jo Gerlach, R.N.
Nursing Program Coordinators
Childhood Lead Poisoning Prevention Program
841 N Broadway
Room 228
Milwaukee, WI 53202
(414) 286-3614 or 286-5987

LPRF.rev 02-28-94

New Jersey
GIS Resource Guide
-1993-

Prepared and published by the
New Jersey State Mapping Advisory Committee (SMAC)

Henry L. Garie	Chair, SMAC
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Kenneth Sass	Aerial Photography Subcommittee
Louis Marchuk	Chair, Geodetic Control Subcommittee
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Forward

In many ways the 1990's have ushered in dramatic changes. From an information perspective, we are bombarded with ever increasing amounts of information to assimilate and interpret; thus decision-making becomes more complex with choices among many alternatives. A positive side of this information avalanche is that technology has also rapidly changed, and there are wonderful tools now available notably, Geographic Information Systems, to help manage all this information.

We are all faced with an economic situation where a common theme is "do more with less". Therefore, a key management challenge is to determine how we can efficiently acquire and utilize this new information with shrinking resources.

The New Jersey State Mapping Advisory Committee (SMAC)[1] is addressing this information management challenge in several ways. SMAC provides a coordination mechanism for anyone in New Jersey who is a mapping professional or is interested in geography. SMAC is committed to information exchange and the development of a network of mapping resources to foster cooperation and promote a standard of excellence for mapping in New Jersey. We are particularly committed to encouraging the wise use of GIS throughout New Jersey, and it is the purpose of this report, the *New Jersey GIS Resource Guide*, to help both new and experienced users of GIS technology stay aware of ongoing and planned activities. Awareness of ongoing activities and the ability to network with other users will help ensure the wise use of limited resources applied to GIS, and will promote the effective use of information to improve decision making.

The *GIS Resource Guide* was prepared as a cooperative undertaking by the members of SMAC. It is intended to serve as a functional GIS primer and provide an easy-to-update status report of GIS use and relevant data in New Jersey. We hope it can also serve as a useful reference for gaining fundamental knowledge of the elements necessary to build and maintain a successful GIS.

The collaborative effort of private sector companies, representatives of different levels of government, members of quasi-public utilities, and academia resulting in the publication of The *New Jersey GIS Resource Guide* serve as a powerful symbol of what can be accomplished when we work together. The long term success of GIS in New Jersey and elsewhere, will rest on our willingness to build partnerships. Together, we can experience in the realization of the power of GIS technology as we build the databases upon which the tool depends.[1]

Henry L. Garie

Henry L. Garie
Chair, SMAC

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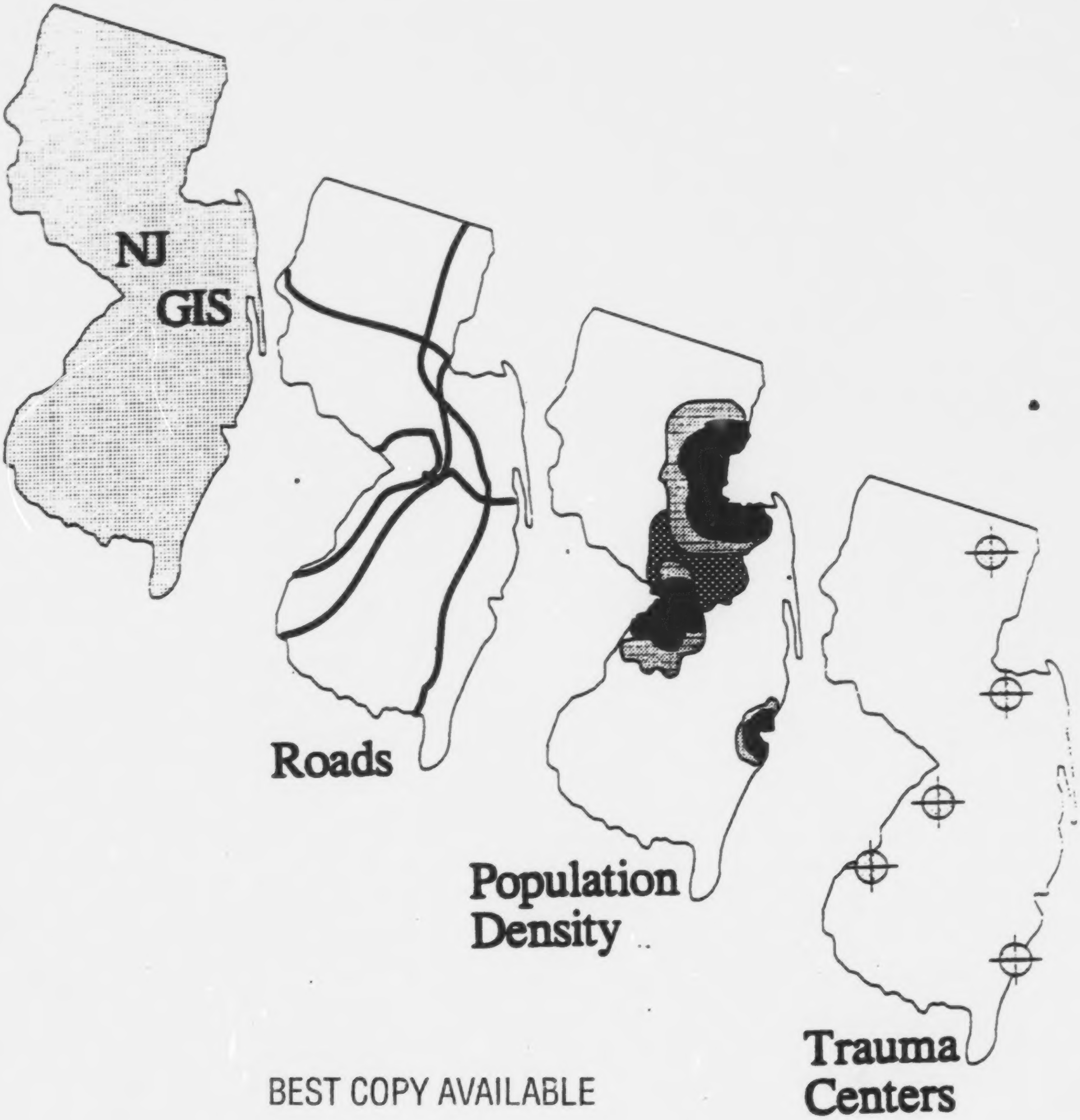
[1] See Appendix A for full description

Geographic Information Systems (GIS) Current Applications in New Jersey


NJ
GIS
Roads
Population Density
Trauma Centers

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Prepared by the GIS Subcommittee of the State Mapping Advisory Committee

Executive Summary

Geographic Information Systems (GIS) are a state-of-the-art technology for data management and decision support. The strength of a GIS lies in the fact that it combines geographic information with tabular data, and allows diverse sets of data to be combined for comprehensive analysis. In addition, once raw data becomes integrated into the GIS, organizational efficiency is significantly enhanced, as users can work with consistent information which is immediately available.

Throughout New Jersey there are several municipal, county, regional, state and federal government agencies, as well as utilities, and a variety of private sector organizations who have implemented a GIS. As use of GIS technology spreads, however, questions about the different types of systems and their applications also arise. In addition, organizations interested in implementing a GIS should be aware of the existence of data throughout the state, to minimize the unnecessary expenditure of funds for duplicate data development.

The GIS Subcommittee of the State Mapping Advisory Committee has compiled this informational document in an effort to educate non-GIS users about the technology and the variety of GIS applications in New Jersey. Five scenarios briefly illustrate the potential uses of GIS. The relationship between the GIS user, and the raw data, hardware, and software that make up the system is presented, along with a diagrammatic representation of the concept of data layers and how geographic data is linked to tabular data in a GIS.

An overview of the organization and purpose of the State Mapping Advisory Committee, the vehicle for coordination and communication between producers and users of mapped information in New Jersey, is also presented, along with information about how to become involved with SMAC. Active participation in one of the subcommittees of SMAC is strongly encouraged for all GIS users, particularly new users. Through SMAC, GIS users in New Jersey obtain information about data development and aerial photography activities throughout the state, and about the many technical and policy aspects of GIS technology.

Finally, the document presents a list of current GIS applications in New Jersey, and a tabular summary of the GIS data layers developed by organizations throughout the state.

There is a great deal of information available about GIS, ranging from technical to policy-oriented in nature. This document presents a basis for people not familiar with GIS to gain some insights to the technology, its benefits and applications, and offers guidance for obtaining further information.

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IMAGINE, IF YOU WILL.......................

THERE IS A MEETING OF COUNTY OFFICIALS TONIGHT TO DISCUSS THE PROS AND CONS OF LOCATING A TRASH INCINERATION FACILITY IN THE COUNTY. AS THE COUNTY PLANNER YOU WILL BE PROVIDING MOST THE OF TECHNICAL INFORMATION FOR THIS GROUP.

From your own workstation you have immediate access to, basic maps, environmental data, geological distribution data, populace concentrations and other data. You analyze potential sites based on critical parameters to come up with a list of six acceptable sites. You then prepare more detailed maps of each site from your system. All this information is ready for the meeting this evening.

* YOU WILL BE A KEY PARTICIPANT IN A PUBLIC MEETING TO DISCUSS THE EFFECT OF SUGGESTED ZONING CHANGES. AT YOUR WORKSTATION YOU PREPARE VARIOUS PARCEL MAPS, ZONING MAPS AND RELATED TAX DATA. YOU ALSO ANALYZE TRAFFIC FLOW IMPLICATIONS OF THE VARIOUS ALTERNATIVES.

In anticipation of questioning from the public you arrange to have a workstation set up in the meeting room. In response to questions this evening you use the workstation to do "what if" scenarios and provide critical road and traffic data for the meeting.

* YOU ARE A RETAILER MARKETING A VARIETY OF PRODUCTS APPEALING TO UPSCALE CUSTOMERS. YOU WANT TO DO A SELECTIVE MAILING TO A SPECIFIC DEMOGRAPHIC GROUP ACROSS THE STATE.

You have previously acquired Census Data by purchasing TIGER files for the counties in the state. You perform an analysis selecting zip codes with mean household incomes over $100,000 which produces a mailing list for your initial campaign. As a follow-up you select the counties with the highest concentration of these neighborhoods. Through your GIS you have the ability to do a detailed analysis and mapping at the municipal level within these counties in anticipation of a billboard campaign.

* A SEVERE HURRICANE IS CAUSING EXTENSIVE FLOODING IN THE COUNTY. USING YOUR EMERGENCY RESPONSE SYSTEM YOU PREVIOUSLY ALERTED ALL THE APPROPRIATE PEOPLE AND FACILITIES AND PUT AN EVACUATION PLAN IN PLACE.

Flooding has just washed out a bridge critical to the evacuation. You turn to your workstation, tell the system the bridge is out, and run another evacuation route analysis. Alternate routes are provided and you immediately provide these to evacuation coordinators. These coordinators continue to give you information on the status of the evacuation and the location of all evacuees to keep in the system for instant inquiry and evaluation.

* THE TOWN MANAGER, THE WATER AND SEWER FOREMAN, THE TAX ASSESSOR AND A DEVELOPER ALL NEED A MAP OF THE SAME SECTION OF THE TOWN AT THE SAME TIME. THE DEVELOPER GOES TO THE CLERKS OFFICE WHERE HE LOOKS AT THE MAP ELECTRONICALLY AT A WORKSTATION AVAILABLE TO THE PUBLIC AND REQUESTS A PAPER COPY OF THE MAP. SIMULTANEOUSLY, THE TOWN EMPLOYEES EACH USE THEIR OWN WORKSTATIONS TO VIEW AND UPDATE THE SAME MAP.

Prior to installing a GIS system, it could have taken a long time just to find the only paper map. Then only one person at a time could use it causing lost time and frustration, delaying significant decisions and actions.

***** GIS CAN HELP YOU, TOO! *****

WHAT IS A GIS ?

The past five years have seen a dramatic increase in the use of Geographic Information System (GIS) technology. A GIS combines the efficiencies of database management software with the power of computer graphics to provide an effective means of storing, manipulating and analyzing large amounts of geographic data.

A GIS can be defined as a set of computerized maps wherein each map feature is linked to a data file with corresponding information about that specific feature. In a GIS, each map feature is represented graphically as a point, line or polygon. The data describing the feature (such as well coordinates, road names, parcel numbers) are stored in separate associated computer files. Since each map feature has a unique geographic location and identification, the GIS has the ability to combine and analyze the relationships between different kinds of geographic and tabular data.

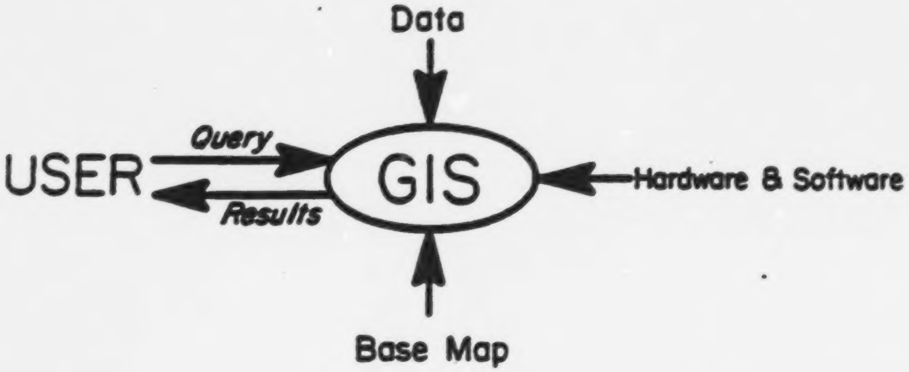

Figure I Elements of GIS

The results of a typical question or "query" to a GIS would produce a highlighted map display and a summary of the data related to the question (see figure 2). In this way, a GIS unlocks the capabilities of modern computers to access, integrate and analyze geographic data.

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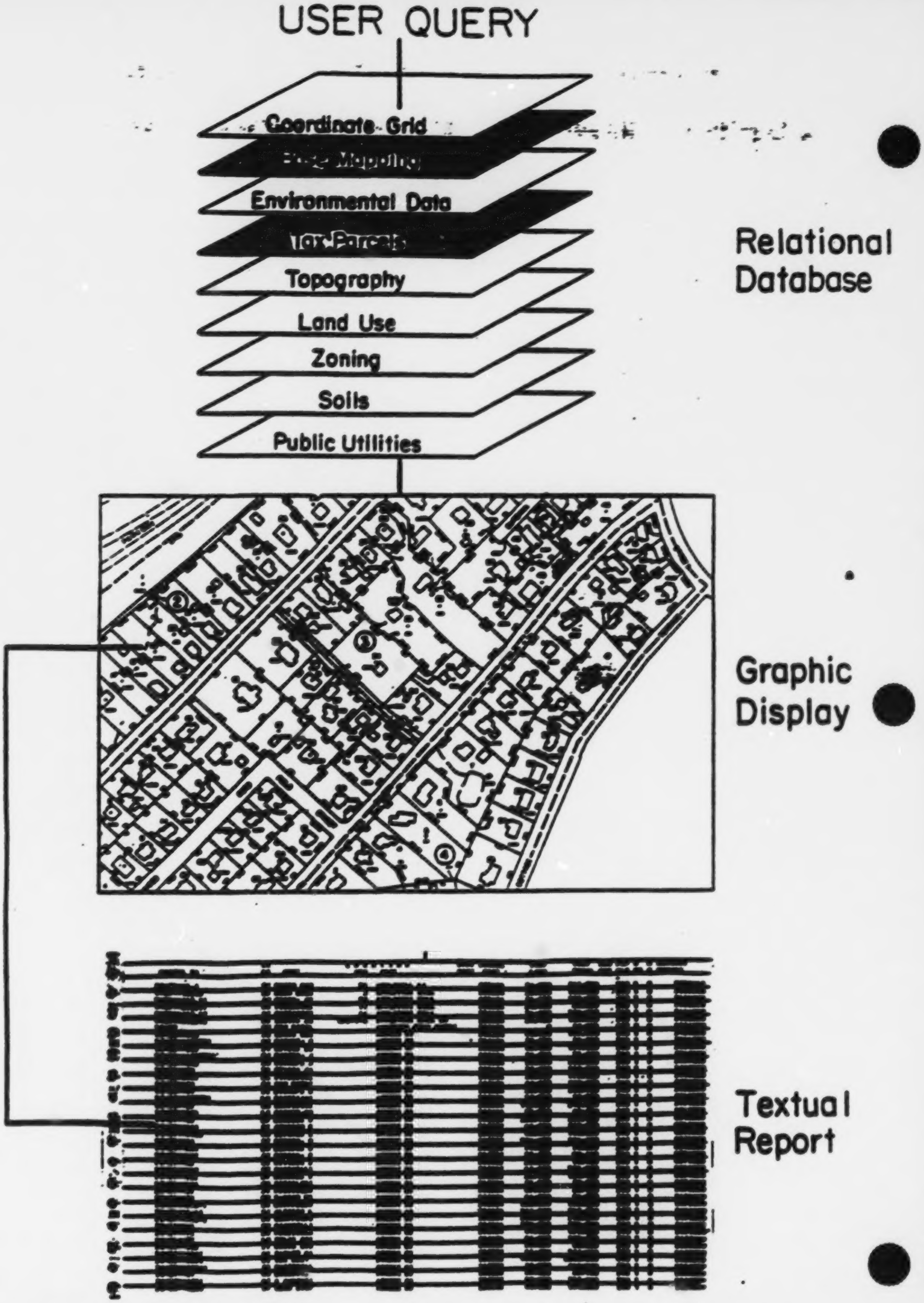
USER QUERY
Coordinate Grid
Base Mapping
Environmental Data
Tax Parcels
Topography
Land Use
Zoning
Soils
Public Utilities
Relational Database
Graphic Display
Textual Report

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Figure 2 Sample Result of User Quer

THE STATE MAPPING ADVISORY COMMITTEE (SMAC)

Within New Jersey, a variety of federal, state, county and regional entities have implemented GIS technology. Table 1 reflects the variety of users and applications of GIS throughout New Jersey; Table 2 reflects the data available throughout the state. Many of the State's GIS users have overlapping data needs. They must be able to communicate with each other, to establish mechanisms for sharing data, cooperate on data development, and thereby reduce the overall costs of GIS implementation. The State Mapping Advisory Committee (SMAC) is addressing these issues by improving communication between GIS users in New Jersey, and by addressing related issues like data standards and system compatibility.

There are five subcommittees of SMAC: the Aerial Overflight Subcommittee, whose job it is to find financial support for and to coordinate statewide aerial photography; the Mapping Standards subcommittee which will recommend appropriate standards for various mapping applications; the Geodetic Control subcommitte which will address issues of coordinate control and GPS; the Data Sharing Legislation subcommittee which will focus on the policy implications of the increased involvement in mapping and GIS; and the GIS subcommittee. The GIS subcommittee, whose mission statement is attached, is the mechanism for government and private sector users to become aware of GIS data development and mapping issues around the state. Not only does the subcommittee provide the opportunity to become actively involved in a network of statewide GIS users, but the meetings may include demonstrations at existing GIS installations around the state.

The GIS subcommittee meets on the first Thursday of every other month; the next meeting will be held on Thursday March 7, 1991, at 10:00. This meeting will be held at the Morris County Planning Department and will include a demonstration of their SYSTEM9 GIS. The meetings are generally held in the first floor large conference room of the New Jersey Department of Environmental Protection, 401 East State Street, Trenton. Occasionally the meeting will be held elsewhere to facilitate demonstrations of various systems.

For more information, or to confirm meeting time and location, please call (609) 984-2243.

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SMAC

State Mapping Advisory Committee ... of New Jersey

GIS Subcommittee Mission Statement

As GIS equipment becomes more affordable, many agencies are developing or considering the development of in-house GIS capabilities. Each user agency will have different goals and requirements, but each system will have overlapping data requirements. By cooperating in the joint development of such "generic" data layers as roads, land use/land cover, soils, and open space, GIS users in New Jersey will each have access to quality data layers, at a reduced cost to any individual agency. In addition, new users need to be provided with a perspective for evaluating available GIS products and services, and be made aware of the data layers already developed by other GIS users in the state. Finally, there is a need for discussion and consensus over the issues which affect all GIS users: data standards, data distribution, costs associated with data development, system compatibility, and communication and technology links. Therefore, the GIS subcommittee has the following objectives:

Membership: the subcommittee will attempt to build a community of mapping professionals, from throughout the state, who will be involved in activities and discussions. This community shall include appropriate federal agencies and the private sector. At least one SMAC representative will be designated from each county, who will then target a contact from each municipality in his or her county. This will provide a tiered approach to local representation in and communication with SMAC .

Outreach: the subcommittee will gather and disseminate information to the entire user community, in an effort to raise the level of awareness, throughout the state, of the mapping statewide activities. The subcommittee will establish guidance for new users to help them consider their data needs and hardware/software purchases, and will work to establish criteria and standards for GIS data development.

Data development and distribution: the subcommittee will address the need for system compatibility through proactive outreach and education of new users, and through the exploration of technical solutions to systems which may not be entirely compatible. The subcommittee will pursue mechanisms for interagency cooperation over data development. The subcommittee will work to eliminate duplication of effort in data development and estab a mechanism for comparing planned data development activit especially for new users.

The combined GIS subcommittee will remain flexible in reacting to the changing needs of the state.

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TABLE 1

GIS IN NEW JERSEY

APPLICATIONS	PARTICIPANTS
EMERGENCY RESPONSE NATURAL DISASTERS CHEMICAL RELEASES 911	STATE POLICE DEP NJ BELL
ENVIRONMENTAL MANAGEMENT AIR SOIL WATER WASTE	DEP SOIL CONSERVATION SERVICE USGS PINELANDS COMMISSION RUTGERS
LAND USE PLANNING STATE MASTER PLAN ZONING	OFFICE OF STATE PLANNING COUNTY PLANNING DEPARTMENTS DELAWARE VALLEY REGIONAL PLANNING COMMISSION
PUBLIC HEALTH CANCER RABIES LYME DISEASE RADON	DOH DEP COUNTY HEALTH DEPARTMENTS
TRANSPORTATION/INFRASTRUCUTRE PLANNING MAINTENANCE	DOT PORT AUTHORITY PSE&G MUNICIPAL AND REGIONAL UTILITY AUTHORITIES
NATURAL RESOURCE MANAGEMENT ENDANGERED SPECIES PARKS FORESTS	DEP COUNTY PLANNING DEPARTMENTS RUTGERS
REDISTRICTING	OFFICE OF LEGISLATIVE SERVICES
LAND RECORDS	MUNICIPAL GOVERNMENTS

EXISTING GIS DATA BY OWNER

COUNTY	AQUIFERS	BATHYMETRY	CAFRA BOUNDARIES	CENSUS TRACTS/BLOCKS	COASTLINE/SHORELINES	DRAINAGE BASINS/WATERSHEDS	ENDANGERED SPECIES	EPA TOXIC INVENTORY SITES	FLOOD PRONE AREAS	GEODETIC POSITIONAL AND ELEVATION DATA	GEOGRAPHY	GEOLOGY	HACKENSACK MEADOWLANDS DISTRICT	HAZARDOUS WASTE SITES	HISTORIC SITES - SMALLER THAN 10 ACRES	INDUSTRIAL SITES	LAND USE/LAND COVER	LANDFILLS	MINES	OPEN SPACE	PINELAND PROTECTION BOUNDARY	POLITICAL BOUNDARIES	PROPERTY TAX INFO	RAILROADS	REMOTE SENSING DATA	ROADS / HIGHWAY DATA	SEWER SERVICE AREAS	SOILS	STATE OWNED LANDS	STATE, MUNICIPAL AND COUNTY BOUNDARIES	SURFACE WATER/HYDROGRAPHY	TIDELANDS	TIGER DATA	TOPOGRAPHY	UTILITIES	WATER SUPPLY	WELLS	WETLANDS	ZIP CODES
** ATLANTIC	6		2		2,5,6	6	2	2		4	5,6	6		2,6	2	2	6	2,6	3		2,6	2		5,6	6	5,6,7		6		5,6	6	2,6	1,2,6	6		6	6		6
BERGEN					2,5,6	6	2	2		4	5,6	6	2	2,6	2	2	6	2,6	3			2		5,6	6	5,6,7		6		5,6	6	2,6	1,2,6	6	6	6	5		6
** BURLINGTON		6		1	1,2,5,6	1,5	2	2	2	4	1,5,6	6		2,6	2	2	2,6	2,6	3	1	1,2,6	1,2		1,5,6	6	1,5,6,7	1	2,6		1,5,6	1,5	2,6	1,2,6	6		1,5	6		1,6
CAMDEN	6	6		1	1,2,5,6	1,5	2	2	2	4	1,5,6	6		2,6	2	2	2,6	2,6	3	1	1,2,6	1,2		1,5,6	6	1,5,6,7	1	2,6	2	1,5,6	1,5	2,6	1,2,6	6		1,5	6		1,6
** CAPE MAY	6		2		2,5,6	6	2	2		4	5,6	6		2,6	2	2	6	2,6	3	2	2,6	2		5,6	5	5,6,7		6	2	5,6	5	2,6	1,2,6	5		5	5		6
** CUMBERLAND	6	6	2		2,5,6	6	2	2		4	5,6	6		2,6	2	2	6	2,6	3		2,6	2		5,6	6	5,6,7		6		5,6	6	2,6	1,2,6	6		5	5		6
ESSEX					2,5,6	6	2	2		4	5,6	6		2,6	2	2	6	2,6	3			2		5,6	5	5,6,7		6		5,6	5	2,6	1,2,6	6		5	6		6
GLOUCESTER	6	6		1	1,2,5,6	1,5	2	2		4	1,5,6	6		2,6	2	2	6	2,6	3	1	1,2,6	1,2		1,5,6	6	1,5,6,7	1	6		1,5,6	1,5	2,6	1,2,5,6	6		1,5	5		1,6
HUDSON					2,5,6	6	2	2	2	4	5,6	6	2	2,6	2	2	2,6	2,6	3			2		5,6	6	5,6,7		6		5,6	6	2,6	1,2,6	6		5	5		6
** HUNTERDON					2,5,6	6	2	2		4	5,6	6		2,6	2	2	6	2,6	3			2		5,6	6	5,6,7		6		5,6	6	6	1,2,6	6		5	5		6
MERCER	6	6		1	1,2,5,6	1,5	2	2	2	4	1,5,6	6		2,6	2	2	2,6	2,6	3	1	1	1,2		1,5,6	5	1,5,6,7	1	2,6		1,5,6	1,5	2,6	1,2,6	6		1,5	5	3	1,6
MIDDLESEX					2,5,6	6	2	2		4	5,6	6		2,6	2	2	6	2,6	3			2		5,6	6	5,6,7		6		5,6	6	2,6	1,2,6	6		6	6		6
** MONMOUTH	6		2		2,5,6	6	2	2		4	5,6	6		2,6	2	2	6	2,6	3			2		5,6	5	5,6,7		6		5,6	6	2,6	1,2,6	6		5	5	3	6
** MORRIS	6				5,6	6	2	2		4	5,6	6		2,6	2	2	6	2,6	3			2		5,6	6	5,6,7		6		5,6	6	6	1,2,6	6		5	5		6
** OCEAN	6	2	2		2,5,6	6	2	2	2	4	5,6	6		2,6	2	2	2,6	2,6	3	2	2,6	2		5,6	2,6	5,6,7		2,6	2	5,6	6	2,6	1,2,6	6		5	5		6
PASSAIC					2,5,6	6	2	2		4	5,6	6		2,6	2	2	6	2,6	3			2		5,6	6	5,6,7		6		5,6	6	2,6	1,2,6	6		5	5		6
SALEM		6	2		2,5,6	6	2	2		4	5,6	6		2,6	2	2	6	2,6	3		6	2		5,6	6	5,6,7		6		5,6	6	2,6	1,2,6	6		5	5		6
SOMERSET					5,6	6	2	2		4	5,6	6		2,6	2	2	6	2,6	3			2		5,6	6	5,6,7		6		5,6	6	6	1,2,6	6		6	5		6
SUSSEX					2,5,6	6	2	2		4	5,6	6		2,6	2	2	6	2,6	3			2		5,6	6	5,6,7		6		5,6	5	6	1,2,6	5		5	5		6
UNION					2,5,6	6	2	2		4	5,6	6		2,6	2	2	6	2,6	3			2		5,6	6	5,6,7		6		5,6	6	2,6	1,2,6	6		5	5		6
WARREN					2,5,6	6	2	2		4	5,6	6		2,6	2	2	6	2,6	3			2		5,6	6	5,6,7		6		5,6	6	6	1,2,6	5		5	5		6

** - DENOTES COUNTIES HAVING OR IN THE PROCESS OF OBTAINING AN IN-HOUSE, OPERATING DIGITAL G.I.S.

DATA SET OWNERS

KEY	AGENCY	ADDRESS	TELEPHONE	CONTACT
1	DELAWARE VALLEY REGIONAL PLANNING COMMISSION	21 SOUTH 5TH STREET, BOURSE BLDG. - 8TH FLOOR, PHILA., PA 19106	(215) 592-1800	JOSEPH HERSHMAN
2	NJDEP GEOGRAPHIC INFORMATION SYSTEM	CN 409, TRENTON, NJ 08625	(609) 984-6070	PAT CUMMENS
3	N.J. GEOLOGICAL SURVEY	CN 029, TRENTON, NJ 08625	(609) 984-6587	GAIL CARTER
4	NATIONAL GEODETIC SURVEY	1035 PARKWAY AVE., CN 600, TRENTON, NJ 08625	(609) 530-5654	BARNEY PUTZIGER
5	U.S. GEOLOGICAL SURVEY - WATER RESOURCES DIVISION	810 BEAR TAVERN ROAD, WEST TRENTON, NJ 08628	(609) 771-3900	CURTIS PRICE
6	PUBLIC SERVICE ELECTRIC & GAS COMPANY	1 PENN PLAZA, NEW BRUNSWICK, NJ 08901	(908) 430-6951	RUSS KAUFMAN
7	NEW JERSEY DEPARTMENT OF TRANSPORTATION	1035 PARKWAY AVENUE, ANNEX 0400, TRENTON, NJ 08625	(609) 530-2840	FRANK McG OUGH

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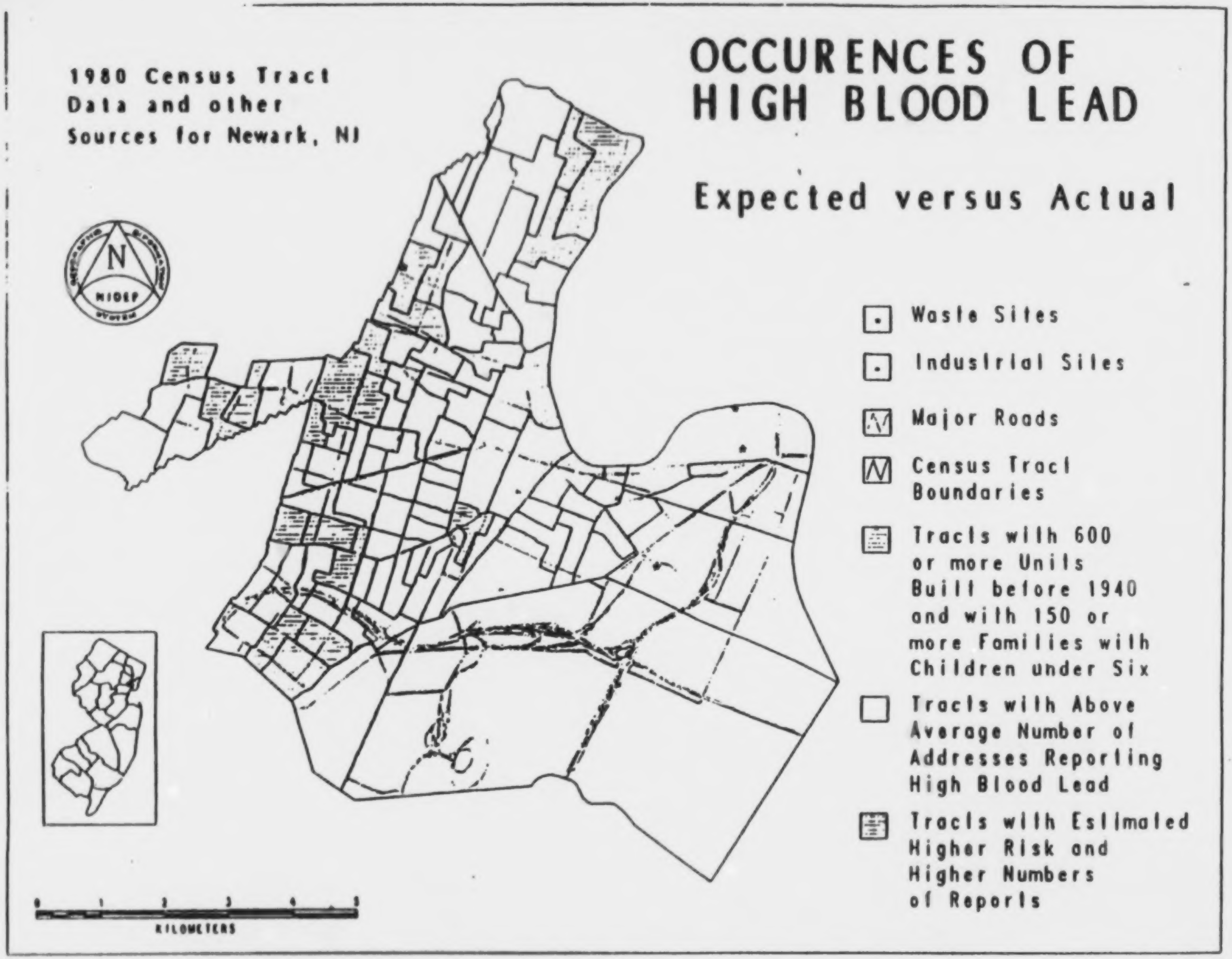
"CENSUS MAP"

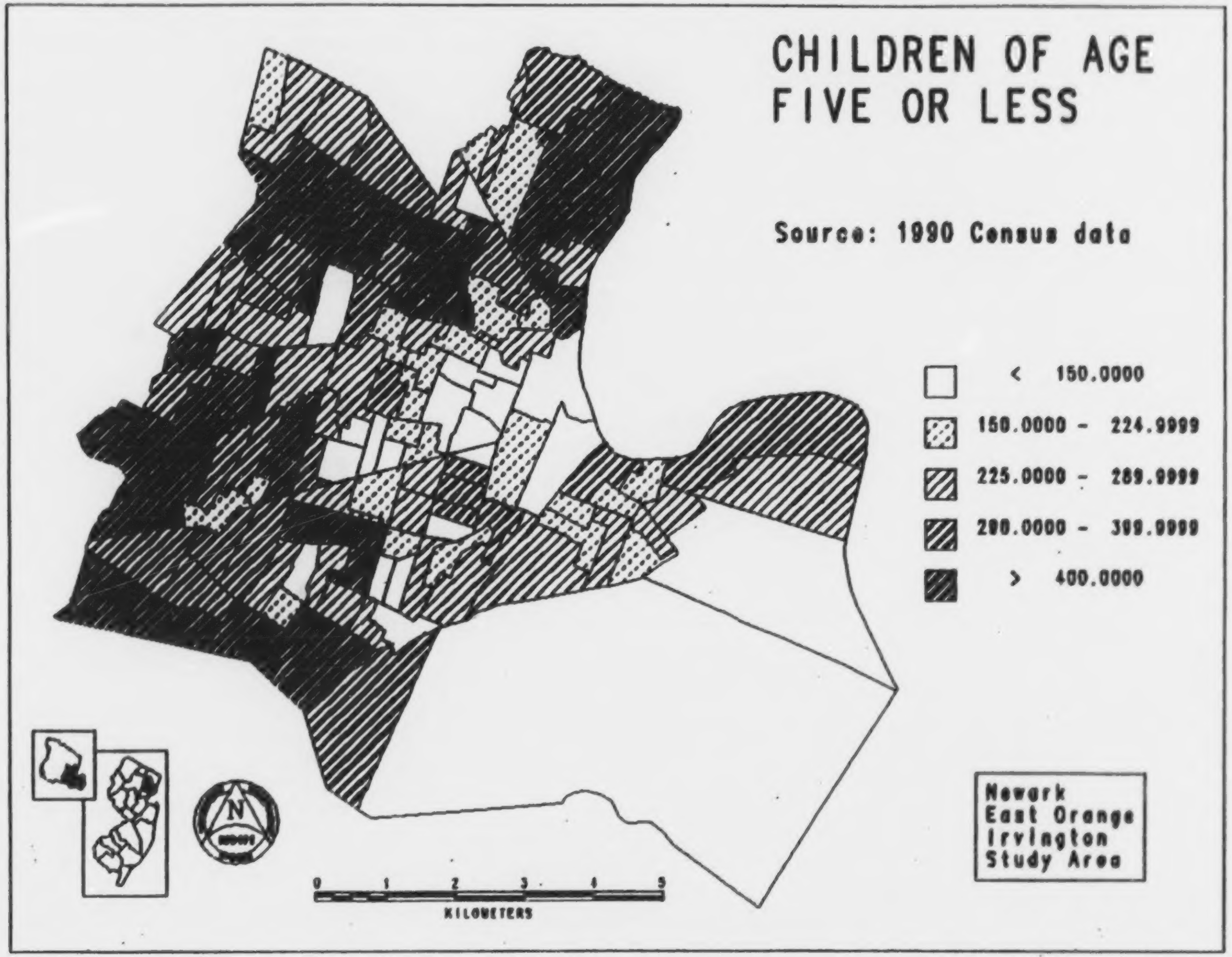


OCCURENCES OF HIGH BLOOD LEAD

Expected versus Actual

1980 Census Tract Data and other Sources for Newark, NJ

- ▣ Waste Sites
- ▣ Industrial Sites
- ▨ Major Roads
- ▨ Census Tract Boundaries
- ▤ Tracts with 600 or more Units Built before 1940 and with 150 or more Families with Children under Six
- ☐ Tracts with Above Average Number of Addresses Reporting High Blood Lead
- ▤ Tracts with Estimated Higher Risk and Higher Numbers of Reports

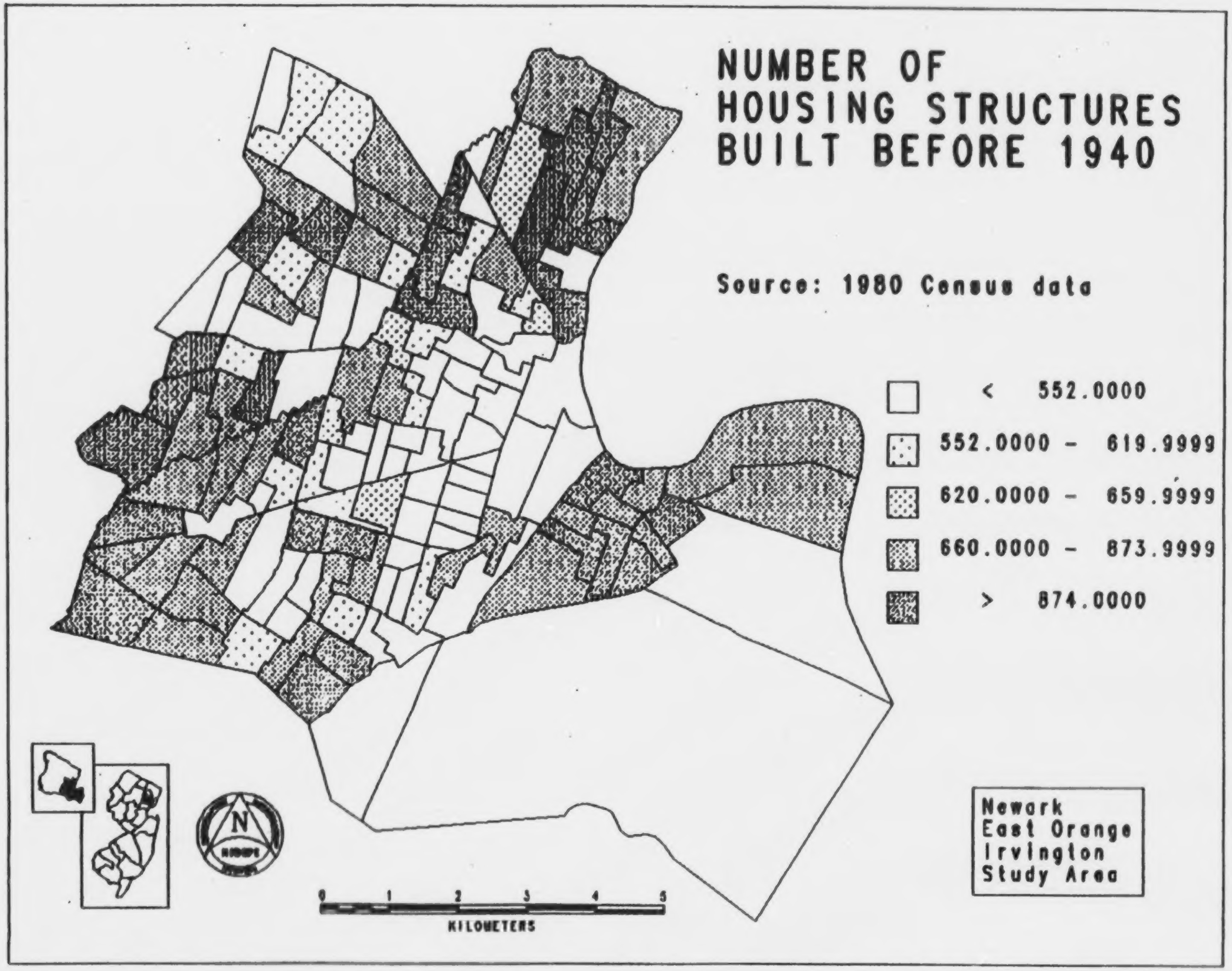


CHILDREN OF AGE FIVE OR LESS

Source: 1990 Census data

< 150.0000
150.0000 - 224.9999
225.0000 - 289.9999
290.0000 - 399.9999
> 400.0000
Newark
East Orange
Irvington
Study Area
0
1
2
3
4
5
KILOMETERS
N

⑤



NUMBER OF HOUSING STRUCTURES BUILT BEFORE 1940

Source: 1980 Census data

< 552.0000
552.0000 - 619.9999
620.0000 - 659.9999
660.0000 - 873.9999
> 874.0000
Newark
East Orange
Irvington
Study Area
N
0
1
2
3
4
5
KILOMETERS

MARYLAND DEPARTMENT OF THE ENVIRONMENT

CHILDHOOD LEAD REGISTRY

BACKGROUND

In 1985, Maryland's General Assembly enacted legislation establishing the Childhood Lead Registry [Section 6-303 of the Environmental Article, Annotated Code of Maryland COMAR 26.02.0]. This law requires laboratories to report the results of all blood tests for lead poisoning performed on children 0-18 years of age directly to the Maryland Department of the Environment (MDE).

Lead screening of children 0-6 years is not mandated in Maryland. Screening is recommended according to the guidelines published by the Centers for Disease Control (CDC) in the October 1991 statement Preventing Lead Poisoning In Young Children and the Maryland State guidelines.

A direct blood lead sample (capillary or venous) is currently the accepted testing procedure for lead screening. The CDC guidelines establish the new blood lead level of concern at 10 µg/dl. The new blood lead level for full public health intervention [environmental investigation and community health nursing (CHN) case management] has been lowered from 25 µg/dl to 20 µg/dl.

REPORTING

The Childhood Lead Registry (CLR) is an in-house, PC-Based computerized system. The Maryland State Laboratory and two private labs report electronically to the Registry; other private laboratories report using hard copy. All processing laboratories FAX or phone elevated results to the CLR to ensure prompt case management. Telephone and mail contact with private laboratories and health care providers is frequently required to obtain demographic information for proper referral and case management.

The CLR publishes an annual report on lead screening in Maryland. To date, the majority of Maryland children age 0 - 6 years have not been tested for lead. In 1990, the results of 23,097 blood lead and 56,252 FEP tests were reported.

The Registry also maintains a data base for identified poisoned children.

FOLLOW-UP

All new cases [children with blood leads ≥ 20 µg/dl] are referred to the local health department for public health case management including CHN intervention and referral to a sanitarian for environmental investigation. Locally, the CHN is the case manager. At the State level, the CLR manager provides oversight for case management of poisoned children. MDE also provides technical environmental assistance including on site inspections as indicated.

A 100-200% increase in the number of new cases is expected to result from increased awareness, increased screening and improved reporting.

For More Information Contact:

Beverly S. Gammage, R.N.C., M.S.
Manager, Childhood Lead Registry
(410) 631-3859
Maryland Department of the Environment
Lead Poisoning Prevention Program
Childhood Lead Registry
2500 Broening Highway
Baltimore, MD 21224

3/92

CHILDHOOD LEAD REGISTRY

REPORT FOR 01/91 – 12/91

# OF BLOOD LEAD TESTS REPORTED

COUNTY	TOTAL TESTS	< 10		10 – 14		15 – 19		20 –24		25–34		35–49		50–69		> 70	
		TESTS	%	TESTS	%	TESTS	%	TESTS	%	TESTS	%	TESTS	%	TESTS	%	TESTS	%
ALLEGANY	249	214	85.94%	15	6.02%	10	4.02%	4	1.61%	2	0.80%	4	1.61%	0	0.00%	0	0
ANNE ARUNDEL	878	765	87.13%	62	7.06%	33	3.76%	10	1.14%	5	0.57%	2	0.23%	1	0.11%	0	0
BALTIMORE	3,021	2,450	81.10%	326	10.79%	122	4.04%	55	1.82%	54	1.79%	11	0.36%	2	0.07%	1	0.000331
CALVERT	12	8	66.67%	4	33.33%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0
CAROLINE	119	81	68.07%	14	11.76%	3	2.52%	8	6.72%	5	4.20%	2	1.68%	6	5.04%	0	0
CARROLL	100	74	74.00%	5	5.00%	5	5.00%	4	4.00%	7	7.00%	0	0.00%	5	5.00%	0	0
CECIL	56	41	73.21%	7	12.50%	1	1.79%	1	1.79%	2	3.57%	4	7.14%	0	0.00%	0	0
CHARLES	35	29	82.86%	6	17.14%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0
DORCHESTER	147	93	63.27%	23	15.65%	8	5.44%	10	6.80%	10	6.80%	3	2.04%	0	0.00%	0	0
FREDERICK	166	118	71.08%	12	7.23%	13	7.83%	3	1.81%	15	9.04%	2	1.20%	3	1.81%	0	0
GARRETT	18	17	94.44%	0	0.00%	1	5.56%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0
HARFORD	440	382	86.82%	45	10.23%	8	1.82%	4	0.91%	0	0.00%	1	0.23%	0	0.00%	0	0
HOWARD	114	103	90.35%	9	7.89%	2	1.75%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0
KENT	36	31	86.11%	2	5.56%	0	0.00%	0	0.00%	3	8.33%	0	0.00%	0	0.00%	0	0
MONTGOMERY	539	503	93.32%	21	3.90%	9	1.67%	3	0.56%	3	0.56%	0	0.00%	0	0.00%	0	0
PRINCE GEORGE'S	1,565	1,297	82.88%	170	10.86%	40	2.56%	20	1.28%	23	1.47%	13	0.83%	2	0.13%	0	0
QUEEN ANNE'S	70	62	88.57%	5	7.14%	2	2.86%	0	0.00%	1	1.43%	0	0.00%	0	0.00%	0	0
SAINT MARY'S	17	15	88.24%	1	5.88%	0	0.00%	1	5.88%	0	0.00%	0	0.00%	0	0.00%	0	0
SOMERSET	103	78	75.73%	16	15.53%	7	6.80%	0	0.00%	1	0.97%	0	0.00%	1	0.97%	0	0
TALBOT	99	83	83.84%	11	11.11%	3	3.03%	0	0.00%	2	2.02%	0	0.00%	0	0.00%	0	0
WASHINGTON	53	41	77.36%	4	7.55%	4	7.55%	1	1.89%	3	5.66%	0	0.00%	0	0.00%	0	0
WICOMICO	472	302	63.98%	113	23.94%	28	5.93%	12	2.54%	16	3.39%	1	0.21%	0	0.00%	0	0
WORCESTER	21	17	80.95%	1	4.76%	2	9.52%	1	4.76%	0	0.00%	0	0.00%	0	0.00%	0	0
TOTAL COUNTIES	8,330	6,804	81.68%	872	10.47%	301	3.61%	137	1.64%	152	1.82%	43	0.52%	20	0.24%	1	0.000120
BALTIMORE CITY	19,134	9,363	48.93%	4,099	0.214226	2,277	11.90%	1,401	7.32%	1,416	7.40%	493	2.58%	76	0.40%	10	0.000522
STATE TOTAL	27,464	16,167	58.87%	4,971	18.10%	2,578	9.39%	1,538	5.60%	1,568	5.71%	536	1.95%	96	0.35%	11	0.000400

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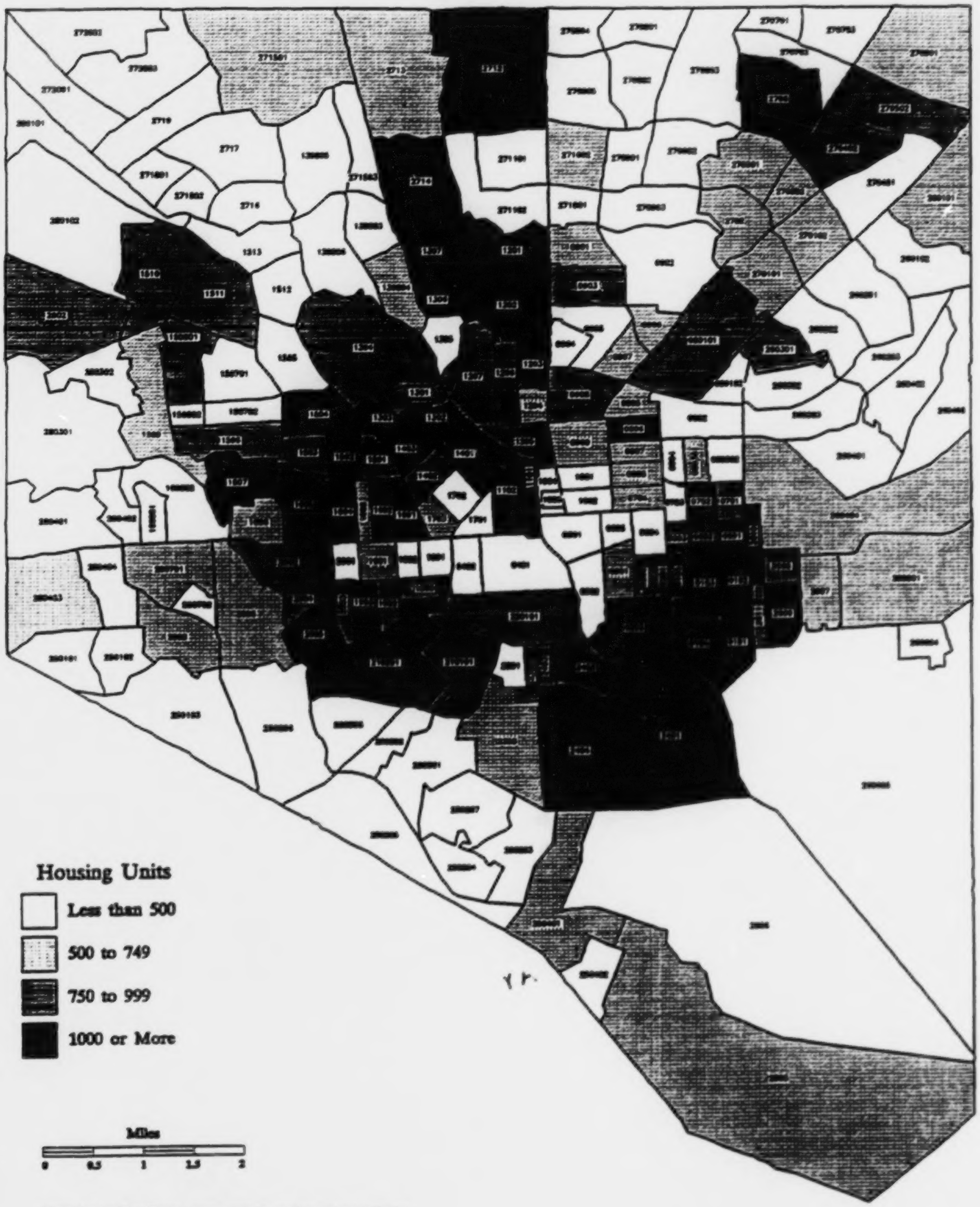
Total Housing Units Built Prior to 1940
Baltimore City, MD

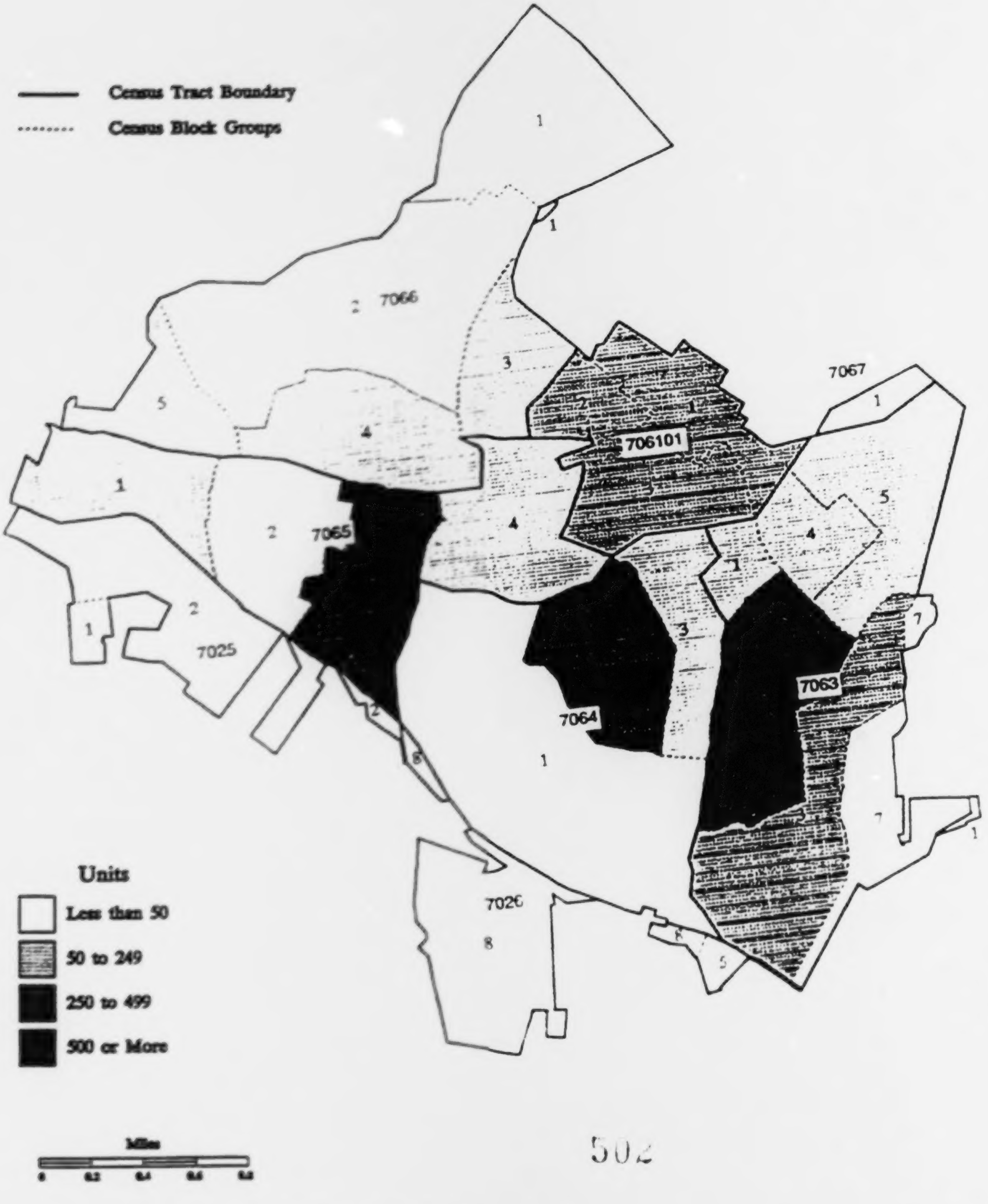

Housing Units
Less than 500
500 to 749
750 to 999
1000 or More
Miles
0
0.5
1
1.5
2

Graphics by BonData - Source: [illegible] Census of Population and Housing

BEST COPY AVAILABLE

Renter Occuppied Housing Units

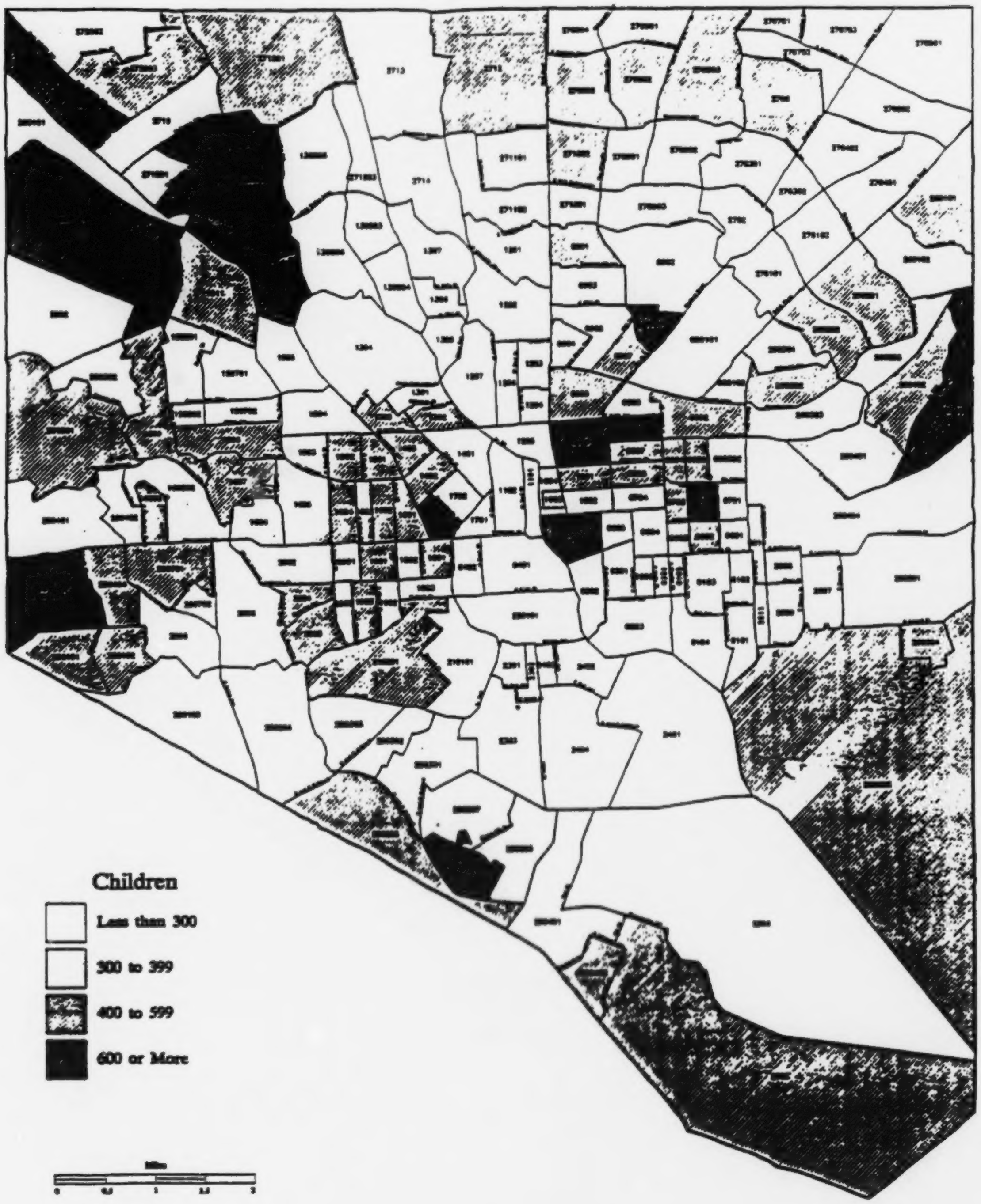
Annapolis City, MD


Census Tract Boundary
Census Block Groups
1
1
2 7066
3
7067
1
5
4
706101
1
1
5
2
7065
4
4
1
2
7025
1
7
3
7063
7064
2
8
1
7
1
7026
8
8
5
Units
Less than 50
50 to 249
250 to 499
500 or More
Miles
0
0.2
0.4
0.6
0.8

Graphics by BonDATA - Source: 1990 Census of Population and Housing

BEST COPY AVAILABLE

Children Under 6 Years
Baltimore City, MD


Children
Less than 300
300 to 399
400 to 599
600 or More
Miles
0
0.5
1
1.5
2

Graphics by BoxDATA - Source: 1990 Census of Population and Housing

BEST COPY AVAILABLE

Baltimore City, Maryland

Census Tract	Children Under 6	Pre-1940 Housing Units
0101	203	1411
0102	191	1349
0103	203	1189
0104	109	917
0105	171	1074
0201	116	928
0202	125	907
0203	106	1208
0301	147	704
0302	376	357
0401	13	341
0402	106	271
0501	618	102
0601	286	1036
0602	422	1252
0603	277	818
0604	294	322
0605	90	75
0701	254	821
0702	704	1105
0703	507	466
0704	360	513
080101	271	794
080102	302	328
0802	502	458
080301	486	602
080302	268	378
0804	445	335
0805	201	538
0806	635	1247
0807	459	717
0808	406	636
0901	418	669
0902	243	312
0903	365	919
0904	252	295
0905	205	422
0906	605	722
0907	523	720
0908	527	877
0909	624	627
1001	411	379
1002	327	167
1003	0	0
1004	123	91
1101	50	1384
1102	100	1951

Source: 1990 Census of Population and Housing
BonData - Hummelstown PA (717)566-5550

Baltimore City, Maryland

Census Tract	Children Under 6	Pre-1940 Housing Units
1201	167	1427
1202	227	2801
1203	331	1264
1204	361	685
1205	284	905
1206	42	942
1207	269	992
1301	356	989
1302	430	1037
1303	447	1111
1304	226	842
1305	173	446
1306	265	1120
1307	260	1453
130803	192	288
130804	212	573
130805	8	0
130806	146	252
1401	161	1824
1402	516	963
1403	422	1145
1501	467	909
1502	439	1211
1503	332	901
1504	368	1202
1505	146	366
1506	529	944
150701	149	172
150702	301	404
150801	376	841
150802	222	124
1509	405	636
1510	691	807
1511	438	923
1512	684	458
1513	746	496
1601	505	1055
1602	448	812
1603	341	654
1604	496	1167
1605	385	829
1606	375	668
1607	569	1143
160801	423	246
160802	357	284
1701	104	251
1702	310	365

Source: 1990 Census of Population and Housing
BonData - Hummelstown PA (717)566-5550

Baltimore City, Maryland

Census Tract	Children Under 6	Pre-1940 Housing Units
1703	659	597
1801	548	247
1802	161	280
1803	187	766
1901	445	650
1902	281	785
1903	423	1003
2001	257	437
2002	349	836
2003	325	884
2004	422	786
2005	428	1273
2006	234	515
200701	456	521
200702	135	199
2008	265	748
210101	262	904
210201	447	1238
220101	163	901
2301	212	488
2302	147	994
2303	104	531
2401	206	1030
2402	90	847
2403	155	901
2404	175	1136
250101	453	112
250102	405	130
250103	332	295
250203	314	102
250204	834	106
250205	489	146
250206	224	345
250207	310	76
250301	216	290
250302	255	163
250303	157	329
250401	384	725
250402	557	309
2505	546	733
2506	77	130
260101	454	660
260102	399	313
260201	523	453
260202	518	389
260203	359	41
260301	37[illegible]	762

Source: 1990 Census of Population and Housing
BonData - Hummelstown PA (717)566-5550

Baltimore City, Maryland

Census Tract	Children Under 6	Pre-1940 Housing Units
260302	404	219
260303	391	150
260401	306	268
260402	431	75
260404	179	558
260498	619	7
260501	369	690
260604	465	132
260605	440	311
260699	0	0
2607	199	728
2608	220	910
2609	191	1087
2610	358	1389
2611	131	827
270101	184	508
270102	282	697
2702	177	641
270301	275	721
270302	154	523
270401	397	446
270402	273	788
270501	356	660
270502	355	817
2706	412	1033
270701	368	87
270702	211	222
270703	209	481
270801	372	93
270802	427	103
270803	485	130
270804	196	328
270805	540	380
270901	343	120
270902	312	67
270903	294	412
271001	366	175
271002	504	533
271101	144	250
271102	114	390
2712	552	1293
2713	188	685
2714	212	1112
271501	433	722
271503	4	46
2716	712	369
2717	722	450

Source: 1990 Census of Population and Housing
BonData - Hummelstown PA (717)566-5550

Baltimore City, Maryland

Census Tract	Children Under 6	Pre-1940 Housing Units
271801	390	300
271802	642	368
2719	330	480
272001	672	249
272002	391	116
272003	515	316
280101	174	89
280102	630	466
2802	367	789
280301	464	261
280302	356	217
280401	297	260
280402	177	106
280403	604	508
280404	417	246

Source: 1990 Census of Population and Housing
BonData - Hummelstown PA (717)566-5550

Data Definitions

Age - The age classification is based on the age of the person in complete years as of April 1, 1990.

Non-White - Race represents self classification by people according to the race with which they most closely identify. Because Hispanic is not a race you can have white hispanics not included in this category.

Poverty - Poverty statistics as presented by the Bureau are prescribed by the Office of Management and Budget in Directive 14 as the standard to be used by Federal agencies for statistical purposes. The income cutoffs to determine poverty status included a set of 48 thresholds arranged in a two-dimensional matrix consisting of family size cross-classified by presence and number of family members under 18 years old. The average poverty threshold for a family of four persons was $12,674 in 1989.

Renter Occupied Housing Units - All occupied housing units which are not owner occupied, whether they are rented for cash rent or occupied without payment of cash rent, are classified as renter occupied.

Persons Per Room - "Persons per room" is obtained by dividing the number of persons in each occupied housing unit by the number of rooms in the unit. Persons per room is rounded to the nearest hundredth.

Units Lacking Complete Plumbing - Complete plumbing facilities include hot and cold piped water, a bathtub or shower, and a flush toilet in the housing unit.

Median Household Income - The median divides the income distribution into two equal parts, one have incomes above the median the other having incomes below. For households the median income is based on the distribution of the total number of units including those with no income.

Year Housing Unit Built - Data on year structure built refer to when the building was first constructed, not when it was remodeled, added to or converted. For a houseboat or mobile home or trailer, the manufacturer's model year was assumed to be the year built. The figures shown in census data products relate to the number of units built during the specified periods that were still in existence at the time of enumeration.

Public Assistance Income - Includes (1) supplementary security income payments made by Federal or State welfare agencies to low income persons who are aged (65 years old or over), blind, or disabled; (2) aid to families with dependent children, and (3) general assistance. Separate payments received for hospital or other medical care (vendor payments) are excluded from this item.

MAP ORDER FORM

Alliance to End Childhood Lead Poisoning

Specify area: State__________,County__________,Municipality______________

By: Municipality_____________, Tract_____________, Block Group_____________

Circle dollar amount of preferred maps:

1990 Census Data	8 1/2" x 11"		Wall Maps in Color	
	B/W	Color	2' x 3'	3' x 4'
Total Children Under 6	$15	$30	$35	$40
Non–White Children Under 6	$15	$30	$35	$40
Total Persons Below Poverty	$15	$30	$35	$40
Children Under 6 Below Poverty	$15	$30	$35	$40
Renter Occupied Housing Units	$15	$30	$35	$40
1.01 or More Persons Per Room	$15	$30	$35	$40
Units Lacking Complete Plumbing	$15	$30	$35	$40
Median Household Income	$15	$30	$35	$40
Housing Units Built Prior to 1940	$15	$30	$35	$40
Housing Units Built 1940 through 1970	$15	$30	$35	$40
Households With Public Assistance	$15	$30	$35	$40
Complete Street Map of Area			$50	$60
Map of Census Geography			$40	$50

Total amount circled: $

Add Setup Fee: $ 100.00

TOTAL ENCLOSED: $

Make checks payable to "BonData", 245 West High St, Hummelstown, PA 17036–2004

Mail maps to:

Name:____________________ Agency:__________________________

Address:__________________ Phone:__________________________

____

All map orders will be accompanied by a print out of the corresponding data. If you would like the data being mapped to be a percentage instead of absolute numbers, please note above, ie: Percent Children Under 6. If you would like the data tables only, call BonData at (717)566–5550 for estimates.

MAP ORDER FORM

Alliance to End Childhood Lead Poisoning

Specify area:

State__________,County____________ by Municipality.
State__________,County____________ by Tract.
State______,County____________,Municipality____________ by Tract.
State______,County__________,Municipality____________ by Block Group.

Circle dollar amount of preferred maps:

1990 Census Data	8 1/2" x 11"		Wall Maps in Color	
	B/W	Color	2' x 3'	3' x 4'
Total Children Under 6	$15	$30	$35	$40
Non–White Children Under 6	$15	$30	$35	$40
Total Persons Below Poverty	$15	$30	$35	$40
Children Under 6 Below Poverty	$15	$30	$35	$40
Renter Occupied Housing Units	$15	$30	$35	$40
1.01 or More Persons Per Room	$15	$30	$35	$40
Units Lacking Complete Plumbing	$15	$30	$35	$40
Median Household Income	$15	$30	$35	$40
Housing Units Built Prior to 1940	$15	$30	$35	$40
Housing Units Built 1940 through 1970	$15	$30	$35	$40
Households With Public Assistance	$15	$30	$35	$40

Complete Street Map of Area	$50	$60
Map of Census Geography	$40	$50

Total amount circled: $
Add Setup Fee: $ 100.00
TOTAL ENCLOSED: $

Make checks payable to "BonData", 245 West High St, Hummelstown, PA 17036–2004

Mail maps to:
Name:______________________ Agency:__________________________
Address:____________________ Phone:___________________________
____

All map orders will be accompanied by a print out of the corresponding data. If you would like the data being mapped to be a percentage instead of absolute numbers, please note above, ie: Percent Children Under 6. If you would like the data tables only, call BonData at (717)566–5550 for estimates.

"Pediatric Lead Poisoning"
Continuing Medical Education
Suite 111
Science Center
401 South Central Plaza
Stratford, New Jersey 08084

CONFERENCE GOALS

- To inform physicians about the new Centers for Disease Control guidelines about lead poisoning and recommendations about testing and treatment; and

- To inform physicians about the new American Academy of Pediatrics statement on pediatric lead poisoning and clinical practice recommendations.

CONFERENCE OBJECTIVES

To understand the importance of universal testing,
To identify the risk factors for lead exposure,
To understand the medical effects of lead exposure,
To become familiar with lead testing, methods, accuracy, cost,
To become familiar with appropriate management of elevated lead levels, and
To become familiar with and obtain patient education materials on lead poisoning prevention.

CONFERENCE FORMAT

Five 30 minute lectures
Question and Answer Session
at the end of last lecture
Included
Continental Breakfast
Coffee Break
Luncheon

FOR INFORMATION
about Registration

Call Center for
Continuing Medical Education
UMDNJ-SOM
at 609-346-7121

PEDIATRIC LEAD POISONING FOR THE PRACTITIONER

NOVEMBER 14, 1992

ATLANTIC CITY
Trump Plaza

CONTINUING EDUCATION
UNIVERSITY OF MEDICINE
AND DENTISTRY OF
NEW JERSEY

UMD
NEW JERSEY

BEST COPY AVAILABLE

PROGRAM

Saturday, November, 14, 1992

8:30-9:00 a.m. Continental Breakfast
9:00-9:10 **Welcome**
Senator Bill Bradley
(Invited)

9:10-9:40
The AAP and the
Centers for Disease Control
Guidelines on Lead Toxicity
Routt Reigart, M.D.

9:40-10:10
The Results of Universal Testing of
Suburban Children
Leslie Tadzynski, D.O.

10:10-10:40
Laboratory Issues in Blood Lead Screening
Peter Mallon, Ph.D.

10:40-10:50 Break

10:50-11:15
Helping Parents Prevent Lead Poisoning with
Environmental Controls
Mark Farfel, Ph.D.

11:15-11:35
Education as a Means to Help Prevent
and Ameliorate Childhood Lead Poisoning
Joan Cook Luckhardt, Ph.D.
Janet Phoenix, M.D., MPH

11:35-12 noon
Panel Discussion
and
Questions and Answers

All Speakers

12 noon Luncheon

COURSE CREDIT

The University of Medicine and Dentistry of New Jersey is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians. UMDNJ is also accredited by the American Osteopathic Association to sponsor continuing medical education for osteopathic physicians.

This program has been reviewed and is acceptable for 2.5 credits.

HOTEL ACCOMMODATIONS

Lodging and meals, other than those specified, are not included in the tuition fee. Rooms are available Friday night at the Trump Plaza Hotel at the special rate of $160 plus 6% state tax for a single or double room. For reservations, call the Trump Plaza Hotel at 609-441-6000. The hotel cut-off date is November 1, 1992, for the special rate. Reservations received after this date will be accommodated on a space available basis only.

TRAVEL ARRANGEMENTS

Air Transportation:
Take flights to the Philadelphia International Airport
Land Transportation: Rental cars are available at the airport.
Driving Directions:
1. Take the **Garden State Parkway** to the **Atlantic City Expressway.** Follow the Atlantic City Expressway into Atlantic City.

Continue straight ahead on Missouri or Arkansas to Boardwalk (about 5 blocks), take a right onto Boardwalk. The Trump Plaza is at the corner of Mississippi and Boardwalk.

2. From the **New Jersey Turnpike** at Exit 3, take Route 168 South (a very short connection) to the Atlantic City Expressway and follow directions above to the Trump Plaza.

COURSE FACULTY

Routt Reigart, M.D.
Chair
Environmental Hazards Committee
American Academy of Pediatrics
Medical University of South Carolina

Leslie Tadzynski, D.O.
Chief of Ambulatory Pediatrics
Director of Pediatric Lead Clinic
University of Medicine and Dentistry
of New Jersey, School of Osteopathic Medicine

Mark Farfel, Ph.D.
Director of Lead Poisoning Abatement Project
The Johns Hopkins University

Joan Cook Luckhardt, Ph.D.
Director
Lead Poisoning Prevention
Education and Training Program,
University of Medicine and Dentistry of New Jersey, School of Osteopathic Medicine, OPMRDD

Peter Mallon, Ph.D.
Director
Corporate Quality Assurance
MetPath Inc.

Janet Phoenix, M.D., MPH
Director of Education
The Alliance to End Childhood Lead Poisoning
Washington, D.C.

COURSE SPONSORS

The seminar costs are being underwritten by the following:

The MetPath Foundation
The University of Medicine and Dentistry of New Jersey- School of Osteopathic Medicine
The Department of Human Services, OPMRDD
Held at The Trump Plaza

COURSE RESERVATION

Mail to:
Lead Conference
UMDNJ-SOM
Continuing Medical Education
Suite 111
Science Center
401 South Central Plaza
Stratford, New Jersey 08084

Name:____________________

Address:____________________

____

Zip:____________________

Daytime phone:____________________

Registration fee: .... ~~$110.00~~ $35.00

Full payment must accompany this form. Make checks payable to UMDNJ-Continuing Medical Education.

Check no.________________ $____________

Please make reservations by November 5th. Cancellations MUST be received in writing by November 11, 1992 to receive a refund. A fee of $25 will be deducted for handling.

Included in the price are:
- processing fee for CMEs
- breakfast, breaks and lunch
- course materials

NEW JERSEY DEPARTMENT OF HEALTH

EDUCATIONAL RESOURCES ON LEAD IN THE WORKPLACE

INFORMATION BULLETIN

November, 1988

Under the OSHA and NJ PEOSH Lead Standards, nearly all employees with potential exposure to lead must be informed of:

- *The health effects of lead*
- *The requirements of the OSHA Lead Standard*

If employees are exposed above the action level or if they may experience skin or eye irritation from lead compounds, they must also be provided with initial and annual training covering:

- *Exposure sources*
- *Respirator selection, use, limitations*
- *Engineering controls and work practices associated with their job*
- *The employer's medical program, medical tests, and medical removal program*
- *Proper use of chelation*
- *The contents of any compliance plans in effect*

The resources listed below can help meet these training requirements.

NEW JERSEY DEPARTMENT OF HEALTH
DIVISION OF OCCUPATIONAL AND ENVIRONMENTAL HEALTH
CN 360, Room 706
Trenton, NJ 08625-9972
(609) 984-1863

The Department of Health maintains a register of clinical laboratory reports of elevated lead in blood and urine. Individuals with high levels of blood lead and their physicians are contacted to assure they are receiving appropriate medical care. Selected workplaces are visited and evaluated by an industrial hygienist and recommendations are reported to both the employer and employees. Worker education classes covering the health effects of lead and the requirements of the OSHA Lead Standard are available to New Jersey employers or unions upon request.

Educational literature available at no cost includes:

☐ **The Health Effects of Lead ***
☐ **The OSHA Lead Standard ***
☐ **Respirator Selection ***
☐ **Respirator Program ***
☐ **Industrial Hygiene Monitoring ***
☐ **N.J. Hazardous Substance Factsheet on Lead**
☐ **A Review of the OSHA Lead Standard**
☐ **Monitoring Protocols for Inorganic Lead**
☐ **Organic Lead Compounds and Your Health**
☐ **Medical Surveillance Program for Employees Exposed to Lead**

Duplicate this section for use as an order form. Circle the asterisk where you also want the Spanish version.

U.S. DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)
Covers private sector employees

Area Offices in New Jersey:
Hunterdon, Middlesex, Somerset, Union and Warren Counties:

Dennis Gaughan, OSHA Area Director
Plaza 35, Suite 205
1030 St. George Avenue
Avenel, New Jersey 07001
(201) 750-3270

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Monmouth, Ocean and Salem Counties:

Harry Allendorf, OSHA Area Director
Marlton Executive Park, Bldg. 2
Suite 120
701 Rt. 73 South
Marlton, New Jersey 08053
(609) 757-5181

Essex, Hudson, Morris and Sussex Counties:

Charles Meister, OSHA Area Director
2 East Blackwell Street
Dover, New Jersey 07801
(201) 361-4050

Bergen and Passaic Counties:

Efraim Zoldan, OSHA Area Director
Teterboro Airport Professional Building
500 Route 17, Room 206
Hasbrouck Heights, New Jersey 07604
(201) 288-1700

OSHA can provide information on the requirements of their lead standard covering private sector workplaces. Formal complaints resulting in an inspection can be filed by current employees willing to sign the complaint. All complaints are confidential if so requested. Non-formal complaints resulting in a letter to the employer and sometimes an inspection can be filed by former employees, citizens and others.

Educational literature available includes:

- List of Labs Approved for Blood Lead Analysis
- The OSHA Lead Standard -1910.1025
- Appendix A - Substance Data Sheet for Lead
- Appendix B - Employee Standard Summary
- Appendix C - Medical Surveillance Guidelines
- Cooperative Assessment Program Manual for the Battery Manufacturing Industry
- Cooperative Assessment Program Manual for the Secondary Lead Smelting Industry

Cooperative Assessment Program Manuals are available from Mel Cassady at the OSHA Health Response Unit (801) 524-5896. Other materials are available from your local OSHA Area office or the OSHA Publications Office in Washington, D.C. (202) 523-9667.

Two lead audiovisuals are available for loan from OSHA's Regional Office at (212) 337-2357.

- OSHA's New Lead Standard (two 60 minute videotapes)
- OSHA Lead Standard, Appendices A and B (12 minute slide-tape or videotape)

VIDEO: TRAINING VIDEO FOR MEDICAL PRACTITIONERS

The series includes the following:

Tape 1: Public Health Context of Clinical Aspects of Environmental Exposure

Richard J. Jackson, MD, MPH, Chief, Office of Environmental Health Hazard Assessment, California Department of Health Services and Penny Newman, Executive Director, Concerned Neighbors in Action, Riverside County, California

This program defines environmental health in the context of the primary care practitioner's practice and stresses the critical role that the alert practitioner plays in identifying potential environmental health hazards in the community. The public's needs and expectations of their health care providers are clearly articulated. Running Time: 29 minutes. **CE Credit:** Approved for 1 unit of Category I credit

Tape 2: Clinical Evalution of Suspected Environmental and/or Occupational Illnesses

Laura S. Welch, MD, Director, Division of Occupational Medicine, George Washington University, Washington D.C.

A step by step approach to evaluating and diagnosing illnesses possibly caused by environmental/occupational exposure to hazardous substances is described. The environmental/occupational health perspective to medical and social history taking is provided. Running Time: 43 minutes. **CE Credit:** Approved for 3 units of Category I credit.

Tape 3: Assessing Environmental Exposures

Stephen A. McCurdy, MD, MPH, Assistant Professor of Medicine, University of California at Davis

How can the practitioner assess risk from environmental exposures? This program introduces the concepts of hazard identification, dose-response assessment, and exposure assessment. Running Time: 43 minutes. **CE Credit:** Approved for 3 units of Category I credit.

Tape 4: Toxicology: A Problem-Solving Approach

Jon Rosenberg, MD
Chief, Hazard Evaluation System and Information Service,
California Department of Health Services, Berkeley, California

This program addresses various principles of clinical toxicology as they relate to environmental exposure. It emphasizes the mechanism of action in toxicology, measurement of toxicants, and the dose-response relationship. Running Time: 39 minutes.
CE Credit: Approved for 3 units of Category I credit.

Tape 5: Neurotoxicology

Robert G. Feldman, MD, Chairman, Department of Neurology,
Boston University School of Medicine, Boston, Massachusetts

This program reviews the differential diagnosis of peripheral and central neurotoxicity and the evaluation and treatment of neurotoxic conditions. Encephalopathy, behavioral disturbances, peripheral neuropathy, and neurotoxic syndromes resulting from environmental and occupational hazards are discussed. Running Time: 56 minutes. **CE Credit:** Approved for 4 units of Category I credit.

Tape 6: Sensitivity, Allergy, and the Immune System

Robert J. Harrison, MD, Director, Occupational Medicine Clinic
University of California at San Francisco

This program addresses the issue of multiple chemical sensitivities and highlights diagnostic testing, and medical and psychological management of possible immunotoxic events. Running Time: 43 minutes. **CE Credit:** Approved for 3 units of Category I credit.

Tape 7: Pediatric Aspects of Environmental Epidemiology

Lynn R. Goldman, MD, MPH
Chief, Environmental Epidemiology and Toxicology Section,
California Department of Health Services, Emeryville, California

An overview of pediatric environmental health through the entire life cycle of the child from prenatal through adolescence, including discussions on tobacco, lead poisoning, pesticides in food, and school and work exposures to toxins is provided. Running Time: 28 minutes. **CE Credit:** Approved for 1 unit of Category I credit.

Continuing Education Credit:

This is an approved program of continuing medical education. Physicians participating in this course may report up to 18 hours of Category I credit toward the California Medical Association Certificate in Continuing Medical Education. For non-Californian physicians reporting to AMA, this is an approved CMA course.

RNs: This program is approved by the California Board of Registered Nursing Provider #04588.

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Department of Neurology,
, Boston, Massachusetts

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System

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Running Time: 43 minutes.
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ces, Emeryville, California

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may report up to 18 hours of
a Medical Association Certificate
r non-Californian physicians
CMA course.

e California Board of Registered

VIDEOTAPE ORDER FORM

Customer Information:

Name:______________________________________

Title:______________________________________

Company:____________________________________

Address:____________________________________

____

City State Zip

Daytime Telephone: (   ) _______________________

Ordering Information:

____	Qty.	Series of 7 tapes @ $150	Amt. ____
Individual tapes:			
____	Qty.	Public Health Context of Clinical Aspects of Environmental Epidemiology @ $25 each	Amt. ____
____	Qty.	Clinical Evaluation of Suspected Environmental and/or Occupational Illnesses @ $25 each	Amt. ____
____	Qty.	Assessing Environmental Exposures @ $25 each	Amt. ____
____	Qty.	Toxicology: A Problem Solving Approach @ $25 each	Amt. ____
____	Qty.	Neurotoxicology @ $25 each	Amt. ____
____	Qty.	Sensitivity, Allergy, and the Immune System @ $25 each	Amt. ____
____	Qty.	Pediatric Aspects of Environmental Epidemiology @ $25 each	Amt. ____
California Residents add 7% sales tax			Tax ____
Shipping and handling			Shipping 4.00
Add $1.50 if outside California			____
			TOTAL ____

Method of Payment: Please make check or money order payable to Impact Assessment Inc.

Mail checks to:
VIDEOS
5900 Hollis Street, Suite E
Emeryville, CA 94608

Allow 2-3 weeks for delivery. All tapes are in the VHS format. Those wishing a Beta or 3/4" format should call to make special arrangements. No preview copies are available.

(c) 1989 Videotape Series California Department of Health Services. All rights reserved.

For more information about this video tape series and the Environmental Epidemiology Training Project call (415) 540-3657. Thank you for your order!

For office use only

Date sent:__________ Sent by:__________

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NEW JERSEY DEPARTMENT OF HEALTH
PUBLIC EMPLOYEE OCCUPATIONAL SAFETY AND HEALTH (PEOSH) PROGRAM

CN 360, Room 706
Trenton, New Jersey 08625-9972
(609) 984-1863
Covers public sector employees

The PEOSH Program can provide information on the requirements of the PEOSH lead standard covering public sector workplaces. The standard is identical to the OSHA Lead Standard. Formal complaints resulting in an inspection can be filed by current employees willing to sign the complaint. All complaints are confidential if so requested. Requests for technical assistance can be made by employers, local health departments and others.

NEW JERSEY DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY AND HEALTH CONSULTATION SERVICES

CN 054
Trenton, New Jersey 08625-0054
(609) 984-3507

DOL can provide technical assistance and free consultation to public and private sector employers. Funded by OSHA to assist employers who wish to voluntarily comply with OSHA standards, including the lead standard. DOL consultations do not result in enforcement actions except in cases of failure to correct serious hazards.

UNITED AUTO WORKERS UNION (UAW)
HEALTH AND SAFETY DEPARTMENT

8000 E. Jefferson Avenue
Detroit, Michigan 48214
(313) 926-5566

The UAW represents members potentially exposed to lead in many industrial operations and has extensive experience in controlling this health hazard.

Educational literature available includes:

- The Hazards of Lead and How to Control Them
- The Lead Battery Industry - A Worker's Guide
- Lead Hazards in Vehicle Assembly and Repair

Audiovisuals available include:

- Lead Health and Safety (20 minute slide - tape show)
- UAW RTK Training Program - Lead (10 minute videotape)

INTERNATIONAL LEAD-ZINC RESEARCH ORGANIZATION (ILZRO)
2525 Meridian Parkway
PO Box 12036
Research Triangle Park, North Carolina 27709-2036
(919) 361-4647 Rosalind Volpe, Manager, Environmental Health, Extension 15

Research organization sponsored by major producers, smelters and refiners of lead and zinc. Sponsors research and advises industry on the toxic effects and environmental health effects of lead and zinc.

Educational literature available includes:

- Small Businessman's Guide to the OSHA Lead Standard
- Lead in the World of Ceramics
- Lead in the World of Ceramics Research Review
- Environmental Report - Newsletter
- Lead Environmental Health - The Current Issues - edited proceedings
- Critical Reviews - Effects of Lead on Male and Female Reproduction (in production)
- The Neuropsychological Effects of Occupational Lead Exposures (in press)
- Lead Neuropathy and Electrophysiological Studies in Low Level Lead Exposure

LEAD INDUSTRIES ASSOCIATION (LIA)
292 Madison Avenue
New York, NY 10017
(212) 578-4750 Jerome Smith, John Yoder

LIA is a trade association of mining companies, smelters, refiners and manufacturers of lead and lead-containing products. Provides technical services and information to consumers. Maintains library of 2000 volumes on lead.

Educational literature available includes:

- Employee Guide to OSHA Lead Standard
- Edited Proceedings: Lead Environmental Health - Duke University
- Small Businessman's Guide to the OSHA Lead Standard
- Guide to OSHA Occupational Standard for Lead
- Safety in Soldering
- Lead and Your Health - Tips on Occupational Protection

Audiovisuals available includes:

- Appendices A and B (12 minutes slide-tape or videotape) $100
- Lead and Your Health Series (a series of five slide-tapes or videotapes - 24 minutes) $100

522

COMMERCIALLY AVAILABLE EDUCATIONAL MATERIALS

Industrial Training Systems Corporation
20 West Stow Road
Marlton, NJ 08053
(609) 983-7300

- Lead (10 minute videotape) $275
- Lead-Leader's Guide

Center for Safety in the Arts
5 Beekman Street
New York, N.Y. 10038
(212) 227-6220

- Lead and Lead Compounds	$ .75	3 pages
- Lead Poisoning	$1.00	4 pages
- Ceramic Glazes May Poison Food	$ .75	3 pages

National Safety Council
P.O. Box 11933
Chicago, IL 60611
1-800-621-7619

- Toxic Metals Booklet	$ .32	12 pages
- Toxic Metals Slide Show (9 minutes)	$ 180	

NATIONAL AUTOMOTIVE RADIATOR SERVICE ASSOCIATION (NARSA)
1709 N. Broad Street
PO Box 1307
Lansdale, PA 19446
(215) 362-5800 Wayne Juchno

Trade association for radiator repair shops. Provides information and seminars on radiator repair procedures and recommended safety and health practices.

Educational articles on lead appear from time to time in:

- Automotive Cooling Journal (monthly)
- NARSA National Newsletter (bi-monthly)

Audiovisuals available includes:

- Health Considerations for Radiator Manufacture and Repair (9 minute slide-tape show)
- Auto Repair Technology for Today (9 minute slide-tape show)
- Introduction to Radiator Manufacturing (12 minute slide-tape show)
  All three, $140-members, $185-non-members

N.J. LABS APPROVED FOR BLOOD LEAD ANALYSIS

Accumed Diagnotic Lab
187 Livingston Avenue
New Brunswick, NJ 08901
(201) 545-4894

Accutest Laboratories
578 Livington Avenue
North Brunswick, NJ 08902
(201) 329-0200

Kaulson Laboratories, Inc.
691 Bloomfield Avenue
West Caldwell, NJ 07006
(201) 226-9494

Metpath, Inc.
One Malcolm Avenue
Teterboro, NJ 07608
(201) 393-5000

Newark Beth Israel Medical Center
201 Lyons Avenue
Newark, NJ 07112
(201) 926-7443

Roche Biomedical Labs, Inc.
5 Johnson Drive
Raritan, NJ 08869
(201) 526-2400

CHOOSING AN INDUSTRIAL HYGIENE CONSULTANT

A list of industrial hygiene consultants is published in the January and July issues of the American Industrial Hygiene Association Journal. This listing implies no recommendation, however. A good consulting firm will ideally be able to provide references to organizations for whom they have performed similar services; these references should be checked out.

New Jersey State Department of Health
Division of Occupational and Environmental Health
Occupational Health Service
CN 360 Room 706
Trenton, NJ 08625
609-984-1863

CHILDHOOD LEAD-POISONING
INTERVENTION PROGRAM
(CLIP)

MMUNITY
DVISORY
COUNCIL

CHAIRMAN
John B. Arnold, M.D.
Hopkins Pediatric Assoc

DIRECTOR
Edward H. Hancock, M.d.
Director of Pediatrics,
Lynchburg Health Dept

COMMITTEE MEMBERS
Mary Blair Blanchard
Division Director, March of Dimes
Birth Defects Foundation

Katherine Brown
Health Counselor

Elizabeth J. Brunson
Interfaith Outreach Assoc

Gilliam Cobbs
City Council

Mark T. Davis
James T. Davis, Inc.

Dan Engel
President Engel Construction Co

Walter Erwin, Esq.
City Attorney to Lynchburg

Augustine J. Fagan
Dir. Central Va. Comm. Services

J. Faircloth
Dir. Lybg. Redevelopment
and Housing Authority

Robert L. Flint, PE
President L.G. Flint, Inc

Mary Harvey
College Hill Neighborhood Council

Karen M. Johnson
Supt. of Inspection
City of Lynchburg

Joan S. Jones
Community Member

Roger Jones
Lynchburg City Schools

Frederick D. Kost
VA State Occ. Safety Inspec

Edith Light
Jr. League of Lynchburg

Herbert R. Moore, Jr.
Exec. Dir., Lynchburg Covenant Fellowship

Margaret Patterson
Chairperson, Dearington/Tinbridge
Hill Neighborhood Council

Jay Scudder
Comm. Planning and Development

Norma W. Stein
Pres. Realty World-Norma Stein Inc

n Warwick
rg Community Action

March 16, 1992

TO: Area Primary Care Physicians to Children

FROM: Edward H. Hanocck, MD
Director, Childhood Lead-Poisoning
Intervention Program

Re: Current Recommendations Concerning Lead-Poisoning

In November 1991 the Commissioner of Health for the Commonwealth of Virginia (Dr. Robert B. Stroube) convened a task-force for a state-wide program for the prevention of lead poisoning. There have been many requests for recommendations on lead since the new guidelines from CDC. Such information has been developed by the task-force, and is being sent to public health clinics and physicians in the state.

Since the Central Va. Health Dept. has now adopted the guidelines in its clinics, we are providing you with this information now. Included in this package are the following:

(1) Memo of 3-10-92 from Dr. Stroube to the Health Depts.

(2) Childhood Lead-Poisoning Screening/Medical Management Guidelines, Va. Dept. of Health, Feb. 1992

(3) Letter from 3 MDs on the task-force to their colleagues.

(4) A. Appendix II. Summary for Pediatric Health Care Provider

  B. Appendix I. Capillary Sampling Protocol (Both from CDC-Preventing Lead-Poisoning in Young Children Oct. 1991

(5) I have distributed some copies of the entire CDC publication. Call if you want more.

It is anticipated that there will be policy statements from AAP and AAFP in the near future. We will peruse these and be in contact with you when they are issued.

If you need any help with any lead problems call us at 947-2328.

Lynchburg Health Department P.O. Box 6056, Lynchburg, VA 24505-6056 804-947-2328

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TITLE: Physician Education Activities

Who uses this material?

Lead Program staff

What is the purpose of the material?

To inform program staff of nursing coordinators' interventions with physicians.

How is the material used in the program operation?

As a way to inform program staff of physician education provided by lead program coordinators.

How and why was the material developed?

Developed by nursing coordinator to inform staff of physician education activities.

Based on evaluations are here any plans for modification of the materials

Summary needs updating prepared almost a year ago.

Recommendations for modifying or improving the material:

Update - include new/additional materials being used.

MILWAUKEE-HEALTH DEPARTMENT
CHILDHOOD LEAD POISONING PREVENTION PROGRAM
PHYSICIAN EDUCATION ACTIVITIES

As a follow-up to the comprehensive physician education provided by Carol Johnson-Fritz, R.N., the Lead Nursing Coordinators continue to act as a resource to medical care providers.

The coordinators are frequently contacted by physicians or their staffs and provide information regarding current state and federal standards and MHD protocols related to lead poisoning. This information is often given verbally, in telephone discussions, and followed-up by a mailing of pertinent materials.

A "Physician's Packet" has been compiled, which contains a variety of materials, and continues to be revised as protocols change or new information becomes available. A complete packet may be sent, or individual pieces from that packet, as is needed.

This is a listing of publications, forms and protocols that may be included in a mailing:

- CDC manual "Preventing Lead Poisoning in Young Children"
- MHD pamphlet "Are Your Children Safe From Lead Poisoning"
- MHD pamphlet "Deleading Your Premises"
- Copies of current articles on lead poisoning
- MHD Physician/Parent discussion guide
- Dr. Margaret Laydes' guidelines on "Outpatient Therapy of Lead Poisoning", and "Case Management of Lead Poisoned Children"
- MHD "Teaching a Family with a Lead Poisoned Child"
- MHD intervention schedule
- MHD Lead Poisoning Reporting Form
- MHD "Ways to Prevent Lead from Harming Your Children/Phosphate Detergents For Use In Lead Clean Up"
- Reference sheet on area labs analyzing blood leads
- MHD "Generalized Procedure Fingerstick Blood"
- Milwaukee City Ordinance Number 901495 "A Substitute Ordinance Relating to Lead Poisoning Prevention and Control"
- Wisconsin State Law Chapter 151 "Prevention of Lead Poisoning and Lead Exposure"

Since 08-28-92 the nursing coordinators have sent out mailings to 32 health care providers; 6 other professionals; and 9 nursing students.

LEAD POISONING AND PREVENTION:

A TRAINING MODULE FOR NUTRITION STAFF

Massachusetts WIC Program
Massachusetts Department of Public Health
150 Tremont Street 3rd Floor
Boston, MA 02111
(617) 727-6876

October, 1993

APPENDIX 4

GUIDELINES FOR LEAD-FREE PLAY AREAS

1. Clean up paint chips that have fallen on the ground around buildings. Always use a drop cloth when removing leaded paint so all debris can be disposed of properly.
2. KEEP DUST DOWN: Plant tough grass and cover bare dirt under swings and slides with rags or mats. Dampen exposed dusty areas or cover with a thick layer of gravel, mulch, or other ground cover.
3. Plant hedges or bushes close to the house so children will not play where lead accumulation is greatest.
4. Provide clean teething toys and wash children's hands, especially before eating.
5. When eating outdoors, eat at a table rather than on the ground.
6. Build a sandbox (with a bottom) and fill it with clean sand.

GUIDELINES FOR SAFE GARDENING

Ways To Reduce The Lead Content of the Vegetables You Eat

1. Locate gardens away from roads and old painted structures if possible, and lay out gardens to keep leafy greens and other hard to wash vegetables far from the street. If your garden is within 50 feet of a heavily traveled street, plant a hedge or build a fence to block car exhaust.
2. Give planting preference to fruiting crops (tomatoes, squash, peppers, cucumbers, peas, beans,corn, sunflowers, etc.).
3. Avoid growing leafy greens and roof crops.
4. ADD ORGANIC MATERIAL (composted kitchen vegetable wastes, manure, leaves, grass clippings, peat, etc.).
5. ADD LIME to soil, using your soil test results as a guide to bring the pH as close to the range 6.5-7.0 as possible.
6. Discard old outer leaves of vegetables before eating. Peel roof crops before eating.
7. WASH ALL PRODUCE THOROUGHLY, preferably with a 1% vinegar in water solution (1-2 oz./gal. water or use soapy water)
8. Lay down mulch to prevent airborne lead from settling on soil. Discard mulch rather than plowing it in.

ACKNOWLEDGEMENTS

Thanks and appreciation is given to Mary Jean Brown of the Childhood Lead Poisoning Prevention Program for information contributed in the preparation of this module.

The following individuals at Massachusetts WIC were especially involved in the development of the Lead Poisoning Prevention Module:

Andrew Seplow, State WIC Nutritionist
Jan Kallio, State WIC Nutrition Coordinator
Barbara Ward, Graphic Designer
Jan Peabody, Technical Typist

A special note of thanks and appreciation is given to Mary Kelligrew Kassler, Director of the Massachusetts WIC Program, for her support and commitment to quality nutrition services and paraprofessional training.

PREFACE

In the past several years, science has learned that lead is more toxic to children, and that the prevalence of lead poisoning in children is far greater than had previously been thought. These advances in knowledge prompted the Massachusetts Department of Public Health WIC Program to publish this revised edition of Lead Poisoning and Prevention: A Training Module for Nutrition Staff.

The most important revisions in this update are as follows:

1. WIC has lowered the blood-lead level of concern to 10 micrograms per deciliter of whole blood (ug/dl) from the previous level of 25 (ug/dl). This level reflects the recommendations of the Centers for Disease Control (CDC) and the Massachusetts Department of Public Health Childhood Lead Poisoning Prevention Program (CLPPP).

2. The screening test of choice is now blood lead (Pb) measurement. The free erythrocyte protoporphyrin (FEP) level is not sensitive enough to identity children with elevated blood lead levels below about 25 (ug/dl). In general, the FEP test will only be performed on infants and children with blood lead levels of greater than 10 (ug/dl) in order to diagnose anemia.

These changes, and their implications, are discussed in more detail in the module.

As always, nutrition intervention plays a key role in preventing and treating exposure to lead. Accordingly, WIC nutrition staff should emphasize the following four points during counseling and education:

1. Eat meals at regular intervals, since more lead is absorbed on an empty stomach.

2. Consume adequate amounts of iron- and calcium-rich foods.

3. Minimize the potential for lead ingestion from water, and especially from water used to prepare infant formula, by running water until cold to the touch before drinking or using.

4. Identity ways to lower risks of lead exposure in the home.

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QUESTIONS & ANSWERS ON LEAD ABATEMENT WITH THE MARYLAND DEPARTMENT OF THE ENVIRONMENT

Published in Home Modernization News, Maryland Improvement Contractors Association, January, 1992 edition

With the increasing awareness of the potential hazards posed by lead-based paint, contractors have been asking questions about Maryland's regulatory requirements. Following are some of the most common questions, with answers provided by the Maryland Department of the Environment (MDE) Lead Poisoning Prevention Program.

1. How is a lead paint abatement job defined?

ANSWER: Literally, under Maryland regulations (COMAR 26.02.07), any disturbance of lead-based paint is an "abatement." From a practical and enforcement standpoint, however, a lead paint abatement job is regarded as one in which there is material and substantial disturbance of lead-based paint.

For example: replacement of old, lead paint covered windows; paint removal or stripping; preparing loose, chipping, or flaking painted surfaces for repainting; or demolition of painted components are regarded as lead paint abatement work.

Enforcement is not pursued for limited patching or repair work which produces minor amounts of dust and debris. Additional information about safe work practices at such jobs is available from MDE.

2. How do I know if there is lead-based paint?

ANSWER: To know for sure that paint has lead above the legally defined level of concern (more than 0.5% by weight for paint scrapings or .7 mg per square centimeter by portable analyzer), you must have it tested. Two types of testing provide this information: laboratory analysis of paint scrapings and on-site testing with an XRF analyzer.

The proper collection of paint scrapings for laboratory analysis is essential. Written information is available from MDE on how to take an adequate sample. Contact the laboratory which you intend to use for specific instructions.

You may hire a trained professional to bring a portable XRF analyzer on site. This method is usually cost effective for large-scale testing only, but it does provide for measurement of lead content without damaging the existing paint.

3. What is the role of chemical spot test kits?

ANSWER: There are a number of inexpensive test kits on the market that can be used to test paint. A chemical reagent provided in the kit is intended to change color when it comes in contact with lead. Results must be interpreted with caution because: (a) they are intended to indicate the presence of lead but not how much lead, (b) they may provide false positive or false negative results, and (c) in some cases the color change may be difficult to see. Instructions for some kits may be difficult to follow.

4. If there is lead present, what do I need to do?

ANSWER: The contractor must assure that all workers have successfully completed a lead paint abatement training course which has been approved by the State of Maryland. A list of approved training courses is available from MDE.

The contractor must also ensure that several techniques are used to minimize and contain dust generation. These techniques are described in detail in the regulations. They include:

a) Limiting access to the work area
b) Following safe work practices
c) Laying plastic in the work area to contain dust and debris
d) Selecting approved methods*
e) Thorough cleaning
f) Repainting with high quality paint or paint-on encapsulant
g) Securing, and properly disposing of, all contaminated materials and debris
h) Calling for required inspections

* Maryland regulations specifically prohibit burning lead paint with an open flame torch. Dry sanding is also prohibited.

5. If there is lead in the paint, must it be fully abated or removed?

ANSWER: State law does not require the removal of lead-based paint. Nor does it prevent you from applying new paint over lead-based paint. Specific abatement requirements may be included in contract specifications or be ordered by a government agency (such as a local health department). Check with your local housing code enforcement office to determine if there are additional local requirements.

6. Who must be trained?

ANSWER: Anyone engaged in a lead paint abatement job must be trained. This requirement covers contractors, painters, electricians, carpenters, or any other workers who are on site during the abatement project.

7. Must I inform MDE that I am doing a lead abatement job?

ANSWER: Yes. The contractor is required to notify MDE of readiness for inspections of a lead paint abatement job at specific times:

- For all abatement jobs, a final inspection is to be requested prior to re-occupancy. Dust samples are collected by the inspector to assure that the project has been adequately cleaned.
- In abatement projects ordered by a government agency, a visual inspection is required following the completion of abatement work, but prior to repainting. The purpose of this inspection is to assure that ordered abatement work has been satisfactorily completed.

It is best to contact MDE before any abatement job is started to assure close cooperation.

8. When might enforcement action be taken?

ANSWER: Lead abatement inspectors are encouraged to visit work sites during abatement projects. Inspectors also conduct site visits in response to citizen complaints of ongoing unsafe work. Work not in compliance with regulations will result in a notice of violation and, in many cases, a fine.

9. What are the most common violations of lead paint abatement regulations?

ANSWER: One of the most common violations of the lead regulations, but not necessarily the most serious, is failure to post a caution sign. This violation may result in a notice of violation, but not necessarily a fine. Other more serious violations such as burning lead paint, sanding lead paint and using untrained workers will result in a fine. Other common violations which may result in a fine include failure to contain the dust and debris, failure to properly clean the work area and failure to limit access to trained personnel only. Common violations of the most serious type, such as burning or dry sanding of lead-based paint or using untrained workers, will result in a fine.

10. If I have further questions, whom may I contact?

ANSWER: Contact the MDE Lead Poisoning Prevention Program at (410) 631-3859. For general information about lead abatement [including testing, dust minimization and containment, special cleanup, and other topics] detailed printed materials are available. A contractor's information package is available for $5.00.

For assistance or information regarding a planned or ongoing project, identify the area in which the project is located and ask to speak to the appropriate regional inspector.

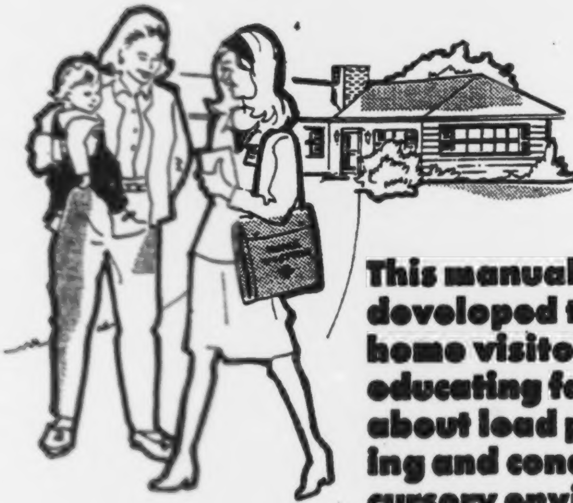
TITLE: A Home Visitors Guide to Childhood Lead Poisoning Prevention

SOURCE: Rhode Island Department of Health

PURPOSE OF MATERIAL: A guide developed to educate home visitors about lead poisoning prevention activities they can perform while interacting with families in their homes.

Preventing Lead Poisoning
through Home Visits

A
Home Visitors' Guide
to
Childhood Lead Poisoning Prevention



This manual was developed to aid home visitors in educating families about lead poisoning and conducting cursory environmental assessments to identify potential lead hazards in homes. Those interested in gathering more information on lead poisoning prevention are encouraged to read the US Department of Health and Human Services Centers for Disease Controls' Preventing Lead Poisoning in Young Children.

BEST COPY AVAILABLE

INTRODUCTION TO LEAD POISONING

•Childhood lead poisoning is the number one environmental health risk facing children in the United States.

•Approximately 33% of the children in RI between the age of six months and six years have elevated blood lead levels.

•Increased attention to lead poisoning in recent years is in response to by several epidemiological studies showing adverse health effects in children at lower levels of exposure.

•Once thought to affect children's development only at high levels, current studies have linked low-level lead exposures with long-term effects such as learning disabilities, reductions in IQ scores, and even increased likelihood of dropping out of high school.

Lead Poisoning: A Preventable Disease

Removal of potential lead sources from a child's environment is the only sure way to prevent lead exposures; however, removal is neither cost-effective nor necessary to prevent poisoning. Most families will want to take other preventive measures to reduce children's exposures to lead.

Providing lead awareness to families with young children is the next best way to prevent lead poisoning in young children.

THE ROLE OF THE HOME VISITOR IN PREVENTING LEAD POISONING

As a home visitor, you can help families prevent lead poisoning. Because you visit the homes of families with young children, you can both educate families about lead poisoning and help families identify potential lead hazards in their homes. This manual will assist home visitors accomplish two basic tasks:

Educate the Family About Lead Poisoning
Increasing a family's general awareness of lead poisoning and educating them about the potential sources of lead poisoning in the home is the first step towards preventing poisoning.

Perform an Environmental Assessment
Helping the family identify potential sources of lead in the home as well as recommending ways the family can reduce exposures is a unique way to help families prevent lead poisoning.

Empowering the Family: The Key to Lead Poisoning Prevention

The challenge you will face in educating families about lead poisoning is helping families feel that it is within their control to prevent lead poisoning. The sense of partnership and the feeling of trust you create during home visits will be a great asset when providing information on lead to a family. As you continue to read through this manual and get a sense for how to educate families about lead, remember that empowerment is the key to helping families control lead exposures in their homes.

THE HEALTH EFFECTS OF LEAD POISÒNING

Key Concepts:

- *children become lead poisoned when they ingest lead*
- *you cannot see the symptoms of lead poisoning, but lead poisoning can affect a child's ability to learn*

Lead poisoning occurs when a child ingests lead. There is a large range of health effects due to lead poisoning, depending on the level and duration of exposure. High levels of lead exposure can have severe effects such as comas, convulsions, and death; however, such high levels are extremely rare. More often, child-hood lead poisoning causes non-specific symptoms such as headache or nausea, or no symptoms at all.

Several epidemiological studies have linked adverse health effects with blood lead levels as low as 10 ug/dl. A higher incidence of learning disabilities and decreases in IQ scores are associated with low-level lead exposure. In addition, children with elevated lead exposures show the following effects when compared to peers with lower lead levels: short term memory loss, reading and spelling underachievement, impairment of visual-motor functioning, poor perceptual integration, poor classroom behavior, impaired reaction time, and greater probability of dropping out of high school.

Because there are no symptoms associated with low levels of lead exposure, the only way to determine whether a child has been lead poisoned is to screen their blood. Any blood lead screen above 10 ug/dl is considered "elevated". Children with blood lead levels of 25 ug/dl or above are considered "significantly lead poisoned".

Children under the age of 6 are particularly susceptible to lead poisoning because of high rates of hand-to-mouth activity which causes them to ingest more lead, and because their central nervous systems are still developing.

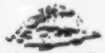
SOURCES OF LEAD

Key Concept:

- *the most common source of lead is lead-based paint, which can be ingested by the child in the form of chips, dust and soil*

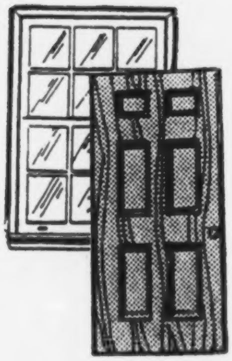
Lead is everywhere in our environment. Although phased out of gasoline and paint in the 1970s, there are still many sources of lead which are accessible to young children. The following are the major sources of lead believed to cause lead poisoning:

Lead in Paint: Peeling, chipping, or otherwise damaged lead-based is still the number one source of lead for childhood lead poisoning. Although lead was banned in paint in 1978, most homes built before 1980 were painted with lead-based paint at some point. Therefore, damaged chipping and peeling paint in these homes expose young children to old lead-based paint. Young children ingest the lead based paint through normal hand-to-mouth activity.



Lead in Dust and Soil: Chips of lead-based paint is not the only source of lead which comes from lead-based paint, as ground lead paint can contaminate dust and soil in and around the house. Lead fumes from when gasoline was leaded also have contributed to the contamination of soil. Once again, hand-to-mouth activity of young children is the primary route of ingestion for these sources of lead.

Lead in Water: Old lead pipes and lead solder used in plumbing leach lead into tap water. Although this not a major source of lead for older children, using contaminated water to prepare baby formula can be a problem. Families should run the cold tap for several minutes before preparing baby formula or for cooking.



Window wells Window sills, and Doorways:
Because these are high-friction areas, there is the potential for old lead-based paint to become exposed. Check window wells, window sills, and doorways for damaged paint and high dust levels, particularly in those areas where the child spends a lot of time.

Children's Rooms and Play Areas:
Areas where children spend most of their time should be checked for potential lead hazards. Once again, check windowsills and doorways carefully. Ask where children like to play and see if there is damaged paint or high dust levels in those areas. This is a good time to ask about the amount of hand-to-mouth activity the child engages in, as high levels may indicate increased risk for lead poisoning.

Outside Play:
Because contamination of soil is widespread in Rhode Island, soil can be an important source of lead, especially in the summertime. Therefore, it is important to gather information on the extent of the child's exposure to uncovered soil. Ask where the child likes to play outside. If the child spends a lot of time playing in uncovered soil, the child could potentially be exposed to lead.

Ask About Past and/or Future Home Renovations:
Home renovations can cause lead poisoning. If a home has recently been renovated it could have high levels of leaded dust, which could be a lead source to a child. If the family is planning on undertaking renovations in the future, they should be alerted of the potential lead source they may be creating, and advised to call the RI Department of Health.

Occupations and Hobbies: If parents of a child have a job or a hobby where they use lead-based materials, lead can be brought into the home through clothes, shoes or arts and crafts materials.

Ceramics: Some ceramic pottery has leaded glazes on the surface. Ceramics currently made in the US do not contain lead.

Folk Remedies: Some medicines have a high content of lead. Some of the folk remedies known to contain lead include: Alarcon, Alkohl, Azarcon, Bali Goli, Coral, Ghasard, Greta, Liga, Pay-loo-ah, and Rueda.

HOW TO CONDUCT AN ENVIRONMENTAL ASSESSMENT IN THE HOME

Key Concept:

- *Parents can learn how to identify lead hazards in the home*

The home visitor can provide invaluable information to a family on the effects of lead poisoning and the potential sources of lead; but even more importantly, the home visitor can help the family learn how to identify potential lead hazards in the home through a brief environmental assessment.

A basic understanding of the most hazardous lead sources is the necessary information for conducting the assessment—the information provided in the previous section should suffice. A trained eye and an ability to engage the family in the investigation are the most valuable assets a home visitor can use to perform the assessment.

During the course of the assessment, the home visitor should not be concerned with finding every possible lead source in the home; professional lead inspectors sometimes spend hours in a home and cannot identify all sources of lead. Instead, the home visitor should help the family identify the most obvious lead hazards in the home.

Specifically, during the evaluation, the home visitor should be primarily concerned with chipping paint, high levels of dust, and accessible areas of soil. The following is an outline of the basic points the home visitor should cover during the course of the assessment.

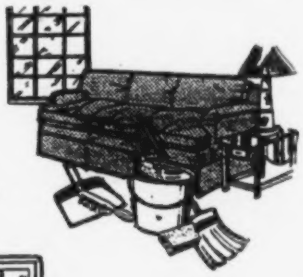
INEXPENSIVE AND PRACTICAL METHODS FOR LEAD HAZARD REDUCTION

Key Concept:

- *parents have the ability to reduce lead exposures to their children through easy and inexpensive methods*

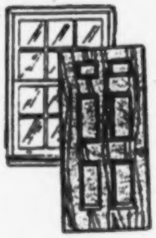
Once the home visitor and the family have identified potential lead hazards in the home, the home visitor should work with the family to think of practical and inexpensive ways to reduce the lead hazards.

The basic recommendation to all families to prevent children from being exposed to lead is to:



- Wet dust or wet mop any areas in the home where dust accumulates.

- Repair or cover all sources of damaged paint in the home.



Common sense is most valuable in trying to control lead sources. A child will not become lead poisoned if they do not have access to lead;therefore, any method which covers or makes a potential lead source inaccessible will serve as a temporary preventive measure.

•If a home visitor sees a window sill or window well with chipping paint, he or she might suggest that the family move a piece of furniture in front ot it.

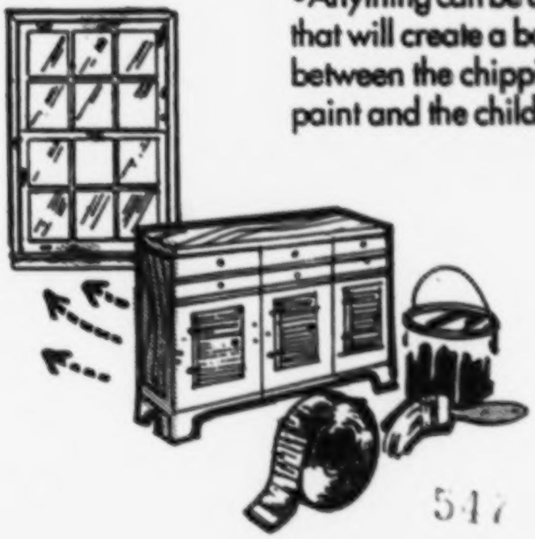
•If a home visitor sees the child playing in dusty areas, he or she can suggest that the child should play on a rug or blanket instead.

•If a child has an old painted wooden block in his or her mouth, the home visitor can suggest the toy be replaced by a plastic one.

The following list includes only a few suggestions for reducing lead exposures in the home:

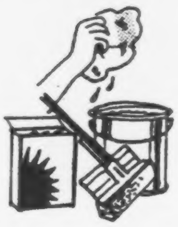
•Contact paper or duct tape can be used on small areas. For larger areas, try a "barricade" such as a bookcase or a couch.

•Anything can be used that will create a barrier between the chipping paint and the child.

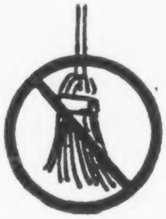


Dusty Areas:

- The best way to control dust is to take a wet rag or mop to the area and wash the area.
- A phosphate solution made with TSP or a cleaner containing 5% or more phosphate works particularly well in clinging to lead particles. TSP is available in most hardware stores and is inexpensive.

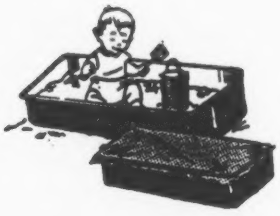


- Routine wet mopping can dramatically reduce dust levels.
- Note: dry wiping and sweeping will not reduce lead sources, but will spread the lead to other areas in the house.

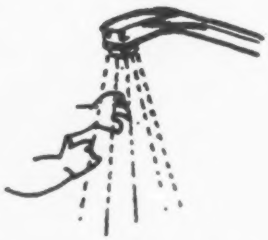


Uncovered Soil:

- Suggest covering the area so the child cannot have access. Some covers include grass and sand.
- If possible, a "safe" play area should be created for the child. Parents can purchase plastic "kiddie pools" and fill with sand bought from a lumberyard or department store at relatively low cost. (Be sure to keep sandboxes covered when not in use.)



- Parents can wash their children's hands carefully after outdoor play to reduce the amount of soil ingested. Also, it is important for the parents to wash hands before the child eats.



Renovations:

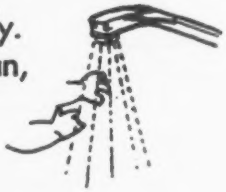
- If renovations have already been undertaken, stress the importance of wet dusting the renovated area to collect lead paint debris.

- If renovations have not yet taken place, advise the family on removing children from the area during renovations, as well as covering the surrounding floor and furniture with plastic tarp before beginning work.

- Place a strong emphasis on careful clean-up including washing work clothes separately and wet mopping the area.

OTHER RECOMMENDATIONS:

- Wash children's hands frequently. By keeping the child's hands clean, any hand to mouth activity will be lead safe.



- Feed children an iron and calcium rich diet. It the child's diet is rich in iron and calcium it is difficult for lead to absorb in the gastrointestional tract. Iron will help the child's body excrete lead.

- Run the faucet water cold for several minutes before preparing formula or children's beverages. Cook with cold water.

Appendix:

THE RHODE ISLAND LEAD PROGRAM

The Childhood Lead Poisoning Prevention Act of 1991 created a Comprehensive Environmental Lead Program to be administered by the RI Department of Health.

Blood Lead Screening:

Since January of 1993, all physicians, hospitals, health care clinics, HMOs and health care programs funded in whole or in part by the state are required to screen children between 6 months and 6 years of age. In addition to mandating health care providers to screen their patients, the Division of Family Health at the DOH sponsors the summer Door-to-Door screening program to reach children in high risk areas who might not receive regular health care.

Medical Interventions:

Children who are significantly lead poisoned receive chelation treatment to remove lead from their bodies. The CDC states chelation can reduce blood lead levels; however, the most important factor is reducing the childs exposure to lead.

Environmental Interventions:

The Lead Program provides comprehensive home lead inspections for those children who are significantly lead poisoned. Landlords are given 30 days to perform lead abatement.

Surveillance and Tracking:

Rhode Island has a data system which tracks medical and environmental information on all children under six in the state. The data is used to track lead poisoning rates in the state as well as to target areas in need of interventions.

- There is currently no primary prevention element to the program due to limited resources. Therefore, there is an urgent need for primary prevention activities to be incorporated through other venues.
- As a home visitor, you can incorporate primary prevention into your home visits with families. By providing lead education and an environmental assessment in each home you visit, you can help reduce the extent of lead poisoning in the families you serve.

Resources

RI Department of Health, Office of Environmental Health Risk Assessment, for technical information regarding lead inspections, lead removal and safety, and lead poisoning prevention.
277-1417

RI Department of Health, Division of Family Health, for information on blood lead testing and treatment of lead poisioning.
277-2312

RI Department of Environmental Management, to report improper exterior paint removal and for information on correct methods of removal.
277-2808

Minimum Housing Code Offices
for complaints regarding peeling and chipping paint conditions, contact the city or town's minimum housing code inspector.

RI Legal Services, for legal advice for low-income people.
274-2652 or 1-800-662-5034

RI Housing for information on home repair/lead abatement loans.
457-1127

Childhood Lead Action Project, for parent support and advocacy.
785-1310

This brochure is distributed through the **RI Department of Health Office of Environmental Health Risk Assessment.** The phone number is **277-1417.**

COMMUNITY EDUCATION & OUTREACH

LEAD POISONING PREVENTION PROJECT

Consumer Action
116 New Montgomery Street, Suite 233
San Francisco, CA 94105
(415) 777-9648

XVI.
Written Materials for Adults

PPS Handbook Form

Title of fact sheet: **"Testing for Lead"**

Reviewer:
Neil Gendel–Author of this fact sheet and Project Director
Lead Poisoning Prevention Project, a project of Consumer Action
116 New Montgomery St., 233
San Francisco, CA 94105

Who uses these materials: parents who read in English with a good education.

Purpose of materials: help parents prevent childhood exposures to lead.

How materials are used: this fact sheet is distributed to parents asking for this kind of information. We do not regularly distribute it to cbos who will be distributing our educational materials to parents for which they provide services.

How and why was the material developed: We developed the fact sheet in 1992 because there is very little information available in concise, readily usable form about where parents who have the resources can look for help.

We designed it ourselves.

Targeted audience: parents who read in English with a good education.

What are the **strengths** of this material: It provides parents with a variety of sources for resources they can use to make their homes lead safe for children. Much of this information is not readily available elsewhere.

What are the **weaknesses** of the fact sheet: None I hope, although it does list local resources for companies which can inspect and do risk assessments. That's a weakness for using in other parts of the country, but it is a strength because so much of the materials in use today do not provide local resources which is a must for a useful fact sheet.

How often is the fact sheet **evaluated**: every three to six months.

Are there any current plans for **modifications** of the fact sheet: No

Recommendations for modifications, improvements: None.

TESTING PRODUCTS AND SERVICES

HOME TESTING KITS

Lead Check
Carolina Environment, Inc.
P.O. Box 26661
Charlotte, NC 28221
(704) 598-1397
8 tests for $19.95 + $1.25 shipping
Tests may be used individually.

The Frandon Lead Alert Kit
Test for Lead in Pottery
Pace Environs
81 Finchdene Square
Scarbourough, Ontario
Canada M1 X-1B4
(800) 359-9000 (Mastercard/Visa)
100 tests for $29.95
40 tests for $19.95
Water kit $39.95
(Additional $3.50 shipping)
Must use all or at least half of the tests at one time.

Lead Check Swabs
HybriVet Systems
P.O. Box 1210
Framingham, MA 01701
(800) 262-LEAD
2 tests for $5
4 tests for $10
8 tests for $17
16 tests for $28.45
Tests may be used individually.

Lead Check II
Michigan Ceramic Supplies
4048 Seventh Street
P.O. Box 342
Wyandotte, MI 48192
(313) 281-2300
60 tests for $24.95 (includes shipping)
Tests may be used individually.

The Coalition to Prevent Lead Poisoning does not endorse any of the products or services mentioned in this fact sheet. The Coalition does not guarantee their methods or results. This listing is for informational purposes only and includes those products and services known as of August 1992. The various standards for lead levels and this information will change over time.

Laboratory	**Cost/Sample**	***Min. Order***	**Turnaround**
Anametrix 1961 Concourse Dr., Ste. E San Jose, CA 95131 (408) 432-8192	$45	*$75*	2 weeks
CalCoast Analytic P.O. Box 8702 Emeryville, CA 94608 (510) 652-2979	$40	*$120*	2-3 days
Chromalab 2239 Omega Road #1 San Ramon, CA 94583 (510) 831-1788	$30	*n/a*	1 week
Engineering-Science 600 Bancroft Way Berkeley, CA 94710 (510) 841-7353	$35	*n/a*	8 weeks
Forensic Analytical 3777 Depot Road #409 Hayward, CA 94545 (800) 827-FASI	$50	*n/a*	4 days
Health Science Associates 5850 Shellmount St # 310 Emeryville, CA 94608 (510) 658-3838	$25	*$75*	1 week
Pace Laboratories 11 Digital Drive Novato, CA 94949 (415) 883-6100	$38	*$75*	2 weeks
Pacific Environmental 674 Harrison St. San Francisco, CA 94107 (415) 243-2580	$40	*$60*	2 weeks
Precision Analytical 4136 Lakeside Drive Richmond, CA 94806 (510) 222-3002	$30	*n/a*	2 weeks
Sequoia Analytical 1900 Bates Ave, Suite LM Concord, CA 94520 (510) 686-9600	$22	*$75*	3 weeks
Sequoia Analytical 680 Chesapeake Drive Redwood City, CA 94063 (415) 364-9600	$22	*$75*	3 weeks
Thermo Analytical 2030 Wright Ave. Richmond, CA 94804 (800) 877-7862	$40	*$150*	2 weeks
Trace Analysis 3423 Investment Blvd. Suite 8 Hayward, CA 94545 (510) 783-6960	$37	*n/a*	3 weeks
Tracor Technology 1601 Research Blvd. Rockville, MD 20850 (301) 257-4927	$25	*$50*	3-5 days

Labs have faster turn-around times available at higher rates.

ONSITE TESTING

William Bir
Forensic Analytical Specialties, Inc.
3777 Depot Road, Suite 409
Hayward, CA 94545
(510) 887-8828
(800) 827-FASI
Direct read XRF analysis* and back-up laboratory analysis. Direct read XRF analysis costs $150 per hour. (A 2 - 3 bedroom home needs approximately 3 - 4 hours to analyze.) Laboratory confirmation costs $50 per sample. Call for an estimate.

Stephen C. Davis, CIH, CSP
Health Science Associates
5850 Shellmount St., Suite 310
Emeryville, CA 94608
(510) 658-3838
Spectrum analyzer XRF analysis* and back-up laboratory analysis. Approximate price range $450–$750, depending on size of house. Laboratory analysis is $25 per sample. Call for an estimate.

Perry Gottesfeld
Occupational Knowledge
2030 Franklin St., Suite 220
Oakland, CA 94612
(510) 444-0163
Spectrum analyzer XRF analysis* and back up laboratory analysis. Paint and soil analysis for a single family home, including backup laboratory testing, generally will run between $400 and $800, depending on size and location. Call for an estimate.

** Spectrum analyzer XRF is considered a better analysis than direct read.*

VARIOUS STANDARDS FOR LEAD LEVELS

Blood Samples in Children

Centers for Disease Control's (CDC) recommendations for physician and public health department action, based on a child's blood lead levels. (San Francisco Department of Public Health follows these recommendations)

Blood Level	Action
<10 µg/dL	Regular screening as per CDC guidelines, which suggest blood tests at 12 and 24 months and screening thereafter to age 6.
10–14 µg/dL	Rescreen in 3 months. Consider community intervention if many children in the community test at this level.
15–19 µg/dL	Rescreen. Educate parents. Test for iron deficiency. Possible environmental investigation and/or abatement if levels persist.
20–44 µg/dL	Complete medical evaluation. Identify and eliminate environmental lead sources.
45–69 µg/dL	Medical evaluation and treatment within 48 hours and environmental assessment and remediation.
>=70 µg/dL	Medical evaluation and treatment immediately and environmental assessment and remediation.

Paint Guidelines

By atomic absorption laboratory analysis

5,000 ppm	California Dept. of Health Services recommends abatement. The U.S. Office of Housing and Urban Development (HUD) requires abatement of public housing units and Massachusetts and Maryland require abatement in private housing.
600 ppm	Consumer Product Safety Commission's current limit for lead in new residential paint.
100 ppm	Proposed Consumer Production Safety Commission limit for lead in new residential paint. (September 1992)

By X-Ray Flourescence (on-site) Analysis, HUD Standards, Scattered Site

Direct Read	Spectrum Analyzer	Guidelines for lead content
> 1.6 mg/cm²	>1.3	Positive
< 0.5 mg/cm²	<0.4	Negative
> 0.5 and <1.6 mg/cm²	>0.4 and <1.3	Inconclusive

HUD requires abatement if the reading is 1.0 mg/cm² or above. Inconclusive results must be confirmed by laboratory test prior to abatement.

Soil Guidelines

50 ppm	"Typical" urban soil lead level.
>50 ppm	S.F. League of Urban Gardeners recommends precautions when gardening.
500 ppm	California Dept. of Health Services recommends abatement.
1,000 ppm	Classified as "hazardous waste" by California Environmental Protection Agency (E.P.A.).

Ceramics: Limits on Lead Content on Items Sold for Food Use, California and U.S. Food and Drug Administration Standards

3.0 ppm	Flatware (e.g., dishes; depth of 25 mm or less)
2.0 ppm	Small holloware* (capacity of < 1.1 liters)
1.5 ppm	Large holloware* (capacity of > 1.1 liters)
0.5 ppm	Mugs
0.5 ppm	Pitchers

* Holloware includes any kind of container which can contain liquid. Generally, this includes everything but flat dishes.

Water Guidelines

15 ppb *	U.S. Environmental Protection Agency maximum contaminant level for drinking water. Use precautions when drinking or preparing food when lead exceeds this level.

* Standard as of Dec. 7, 1992. Previous standard was 50 ppb.

Dust Guidelines

Recommended maximum levels. (California Department of Health Services)

200 µg/ft²	Floors
500 µg/ft²	Window sills
800 µg/ft²	Window wells

Air Guidelines

1.5 µg/m³	California E.P.A. ambient air level limit (3 month average)

GLOSSARY OF MEASUREMENTS

mg/cm²	milligrams per square centimeter
ppb	parts per billion
ppm	parts per million
µg/cm²	micrograms per square centimeter
µg/dL	micrograms per deciliter
µg/ft²	micrograms per square foot
µg/m³	micrograms per square meter

TESTING FOR LEAD

WHY TEST FOR LEAD?

Lead can poison small children. By testing, parents can identify and remove or reduce lead hazards in the home. Sources of lead include: paint, dust, soil, water, ceramics, cans, home remedies and work clothes. This pamphlet lists products and services for testing for lead in the home. Please see the Coalition to Prevent Lead Poisoning's fact sheets *Reducing Lead in Your Home* and *The Do's and Don'ts of Lead Poisoning* for more information about reducing exposure to lead.

WHAT ARE THE TESTING OPTIONS?

You have three options for testing for lead:

1) Home testing kits
2) Laboratory testing of samples
3) On-site testing by professionals

HOW CAN I TEST THE SOURCES OF LEAD?

Sources of lead:	Home kits	Laboratories	On-Site
Cans	✓		
Ceramics	✓		
Dust		✓	
Paint		✓	✓
Soil		✓	✓
Water	✓*	✓	✓

* *Some firms offer home water testing kits. Use with caution. Kits may not be able to detect very low, but still hazardous amounts of lead in water. Home paint testing kits aren't always reliable either.*

© Consumer Action, September 1993

Coalition to Prevent Lead Poisoning
A Project of Consumer Action
116 New Montgomery St., Suite 233
San Francisco, CA 94105
(415) 777-9635; (415) 777-9456 (Voice/TTY)

Address Correction Requested

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WHAT ARE THE BENEFITS AND DRAWBACKS OF EACH METHOD?

Home Testing Kits

Method:	Chemical reaction to lead turns indicators a distinctive color.
Benefits:	Can tell you if lead is present. Easy to use. Inexpensive.
Drawbacks:	Cannot determine exact levels of lead. May not be able to detect low levels of lead. Some controversy over accuracy. Cannot determine whether paint is hazardous enough to require cover-up or removal.

Laboratory Testing

Method:	Laboratory instruments are used to measure the lead content in paint, dust, water and soil samples.
Benefits:	Detects even low levels of lead. Reliable measurement of lead levels.
Drawbacks:	Expensive ($25 – $45 per sample.) May be difficult for you to choose where to sample and to take the samples correctly. Takes longer.

On-Site Testing

Method:	An X-ray machine is used to measure lead in paint. Back-up laboratory analysis is used for some paint samples and for other sources which cannot be tested with the X-ray machine (water, dust, and soil).
Benefits:	Thorough analysis of lead hazard in home. Detects low levels of lead. Reliable measurement of lead levels.
Drawbacks:	Expensive. Approximately $500 – $800 for a moderately-sized single family home including backup lab analysis when needed. Some paint samples must be taken and analyzed in the laboratory because X-ray machine measurements are not accurate enough under certain conditions. Does not measure non-paint sources.

The Coalition strongly recommends laboratory or on-site testing of paint by an expert if you have a child with elevated blood lead levels, if you are considering removing lead paint or renovating, and before purchasing a home or renting an apartment if you have a young child.

WHERE CAN I GET MORE INFORMATION?

Child Health and Disability Prevention (415) 554-9950
Call to learn where eligible children can get free blood lead test and other preventative health services.

Coalition to Prevent Lead Poisoning (415) 777-9635
Call for other fact sheets and more information about city-wide efforts to prevent lead poisoning.

Environmental Defense Fund (510) 658-8008
Request a copy of *What You Should Know About Lead in China Dishes* for an excellent overview of lead in dishware.

S.F. Department of Public Health (415) 255-3748
Call with specific questions about reducing lead paint hazards.

This fact sheet contains a listing of products and services for lead testing and a chart outlining various standards of lead content, to help interpret test results.

A Guide for Landlords:

This fact sheet was developed to provide landlords with basic information regarding their responsibility to ensure safe housing for tenants. The fact sheet describes basic requirements under housing code to provide lead safe housing, as well as the "Emergency Action" that is necessary when children are identified as lead poisoned by the Department of Health and landlords are served with notice to abate lead hazards.

The fact sheet encourages landlords to hire certified and licensed lead hazard reduction workers and explains the correct procedure for reducing lead hazards in an inhabited unit. The fact sheet also gives general information about maintenance of lead safe conditions in homes, and information about where landlords can obtain low-interest loans and grant for proper abatement work.

This fact sheet could be improved by reducing the literacy level to accommodate more landlords. Likewise, having this document translated into other languages would facilitate communication between lead inspectors and landlords when questions arise regarding proper lead hazard reduction in homes of lead poison children.

RHODE ISLAND REQUIREMENTS FOR LEAD-SAFE HOUSING

A Guide for Landlords

Minimum Requirements for Housing.

In Rhode Island, it is unlawful for children to live in a home or rental unit where there are lead hazards. The Rhode Island Housing, Maintenance and Occupancy Code (45-24.3-10) and the Lead Poisoning Prevention Act (23-24.6) provide a legal basis for making sure that children live in lead-safe housing. The Department of Health works with Municipal Housing Authorities to ensure that children are protected from lead hazards.

Housing Authorities rely on the Department of Health to identify lead hazards at the residences of lead poisoned children. Regulations under the Lead Poisoning Prevention Act (23-24.6) define hazards to include damaged lead-based paint and lead-based paint on friction surfaces of doors and windows. In addition, soil, dust and/or water which contains high lead levels are also hazards. These regulations also describe how properties which contain lead can be maintained so that the lead poses no hazard. Such properties are called **"lead-safe"** properties.

"Emergency" Action for Children with Lead-Poisoning.

Cases in which a lead poisoned child is living in a residence with lead hazards is considered an emergency under RI Housing Code. Both the Department of Health and the owner of the child's residence must take immediate actions to comply with the law.

The Department of Health must:

- conduct a Comprehensive Environmental Lead Inspection of paint, interior and exterior dust, soil and water;
- notify the landlord of the lead hazards which must be abated;
- devise an Environmental Lead Management Plan which lists activities which must be performed routinely to maintain lead-safe status and protect children from further exposures.

The landlord must maintain lead-safe housing by:

- abating all hazards identified in the inspection report;
- making sure the apartment stays lead safe by following the Environmental Lead Management Plan. Typically, the Plan includes checking for bare soil in the yard monthly, checking the condition of the paint every 2 to 4 months as well as notifying tenants to flush water lines daily and provide educational materials on the importance of washing floors, window sills and window wells weekly.

Lead Hazard Reduction for Interior Paint.

Removal of lead-based paint is a dangerous activity that can poison both workers and occupants. **The Department of Health forbids contractors to conduct removal of lead-based interior paint or conduct other lead hazard reduction activities unless they are Certified Lead Hazard Reduction Contractors.** Landlords (or their agents) may work on their own properties, but untrained landlords run the risk of contaminating the residence, failing to pass clearance and having to pay professionals to decontaminate the residence. Therefore, the Department of Health strongly recommends hiring Certified Lead Hazard Reduction Contractors to abate lead hazards from interior lead-based paint.

oth landlords and Certified Contractors must follow the work practice requirements describe in tail in the Lead Poisoning Prevention Regulations (23-24.6 Subsection C.6). These regulations are described briefly on the next page, and in the fact sheet entitled, "Are You Removing Paint?"

Five days prior to starting work, notify the tenants about the planned lead hazard reductio activities. Before starting work, the residence must be empty. If tenants choose to stay they must sign a release form, available from the Department of Health.

Prior to disturbing paint: 1) remove furniture from the area to be abated, 2) wet clean walls floors, windows, doors and cabinets, and, 3) using tape and 6 mil plastic, seal the floor heating vents and any other openings leading to uncontaminated areas of the residence;

To remove damaged paint, use wet/dry scraping heat guns or non-flammable strippers **Power sanders are prohibited!**

Replacing old windows and woodwork is often the best long-term solution to harzards.

After completing the work, the area must be repeatedly wet cleaned. Dry sweeping an dry vacuuming is prohibited. Only wet vacuuming or vacuuming with special Hig Efficiency Particulate Air (HEPA) vacuums is permitted;

Before tenants may move back in, a post-abatement clearance inspection by a RI Certifie Lead Inspector must show that the residence is lead-safe. Plastic sheeting separating th work area from the uncontaminated areas may only be removed when the final inspectio by a RI Certified Lead Inspector demonstrates that the levels of lead in dust are safe.

Lead Hazard Reduction Activities for Exterior Paint.

Rhode Island regulations do not restrict who may remove lead-based paint from the exterior o residences, but the Department of Environmental Management does restrict how the work is done. Power sanding and sandblasting are forbidden unless the equipment includes HEPA vacuu attachments. Requirements for notifying neighbors, laying ground cover and site clean-up are summarized in the fact sheet entitled, "Are You Removing Paint?" Copies of the full regulatio (Air Pollution Control Regulation No. 24: Removal of Lead Based Paint from Exterior Surfaces) ma be obtained from the Department of Environmental Management by calling 277-2808.

Other Lead Hazard Reduction Activities.

Rhode Island regulations do not restrict who may conduct typical lead hazard reduction activities involving soil, dust and water. Special restriction apply to soil hazards with lead levels greater than 10,000 ppm.

Maintaining Lead-Safe Property.

Landlords are responsible for maintaining all lead-based paint intact and keeping lead contaminated soil covered. The Environmental Lead Management Plan provides a record of inspections a landlord must carry out to assure the property remains lead-safe. Landlords need to notify tenants of their responsibilities under the plan which may include routine visual inspection of paint and soil, flushing taps and/or cleaning dust, but the ultimate responsibility for maintaining the paint and soil cover lies with the landlord. Landlords may perform minor repairs themselves. Touch-up interior painting jobs are not regulated provided they involve paint removal of no more than 3 ft^2 or $15ft^2$ per residence.

Lead safe status is temporary. Annual re-inspections by Certified Environmental Lead Inspectors must be performed to maintain lead-safe status. The Department of Health does not perform these reinspections. Landlords can call 277-1417 for a list of certified inspectors. Annual reinspections and routine maintenance can only be avoided by making a property lead-free.

Financial Assistance for Landlords.

A variety of financial assistance programs are currently available to assist landlords with the costs of lead hazard reduction. In addition to low-interest loans made available by area housing offices, landlords may qualify for grants (up to $5000 per unit), no-interest loans (up to $10,000), an tax credits (up to $1000 per unit). Call RI Housing (751-5566 extension 257) for information.

TITLE OF MATERIAL: Historic Buildings and the Lead Paint Hazard

USE OF MATERIAL: This material is used by inspectors to inform about the dangers of lead poisoning.

TARGETED AUDIENCE: Tenants and property owners

HISTORIC BUILDINGS AND THE LEAD PAINT HAZARD

In recent years, the hazards of lead-based architectural paints have become an urgent public health issue. In response to legislation in Massachusetts that requires lead paint to be removed from areas on residential buildings that are accessible to young children, the Massachusetts Historical Commission has published "Historic Buildings and the Lead Paint Hazard." Owners of properties listed on the State Register of Historic Places, owners of historic buildings containing lead paint where children under six years of age reside, owners considering undertaking paint removal themselves, and owners of historic properties with loose or flaking paint that may expose underlying lead-based layers are urged to contact the Massachusetts Historical Commission before going ahead with any paint removal on their buildings.

Facts about lead paint:

1) Lead was a standard ingredient in all architectural paints until World War II, and continued to be an ingredient at toxic levels in many paints until 1978.
2) Virtually all historic properties with painted woodwork in Massachusetts have potentially hazardous levels of lead.
3) Two of the greatest generators of toxic lead dust are renovation work and casual paint removal. Children and adults are frequently poisoned by these projects.

Facts about paint removal:

Extensive paint removal can adversely affect historic buildings through:

- outright loss of historic features during paint removal;
- surface damage to wood and plaster from inappropriate paint removal methods or poor craftsmanship during paint removal; and
- loss of paint layers, which offer valuable information about a building's history.

Choice of paint removal methods, choice of workers, and the overall lead-abatement plan will determine to what degree the historic features of a building will be protected or eroded.

In "Historic Buildings and the Lead Paint Hazard," the Massachusetts Historical Commission encourages the use of the most appropriate and least destructive methods of paint removal, and offers creative, careful and safe solutions to the problems presented by lead paint.

Copies of "Historic Buildings and the Lead Paint Hazard"
are available from the Massachusetts Historical Commission,
80 Boylston Street, Boston, MA 02116, (617) 727-8470.

TITLE OF MATERIAL: RE: 454 CMR 22.00 Policy Statement Regarding Covering of Lead-Contaminated Exterior: Letter

USE OF MATERIAL: This material is used by inspectors to inform about the dangers of lead poisoning.

TARGETED AUDIENCE: Tenants and property owners

The Commonwealth of Massachuse
Executive Office of Labor
Department of Labor and Industries
Leverett Saltonstall Building, Government Center
100 Cambridge Street, Boston, 02202

OFFICE OF THE COMMISSIONER
JAMES F. SNOW
(617) 727-3454

RE: 454 CMR 22.00
POLICY STATEMENT REGARDING COVERING OF LEAD-CONTAMINATED EXTERIOR

Where a person intends to cover the lead-contaminated exterior of a residence or other property covered by M.G.L. c. 111, §§190-199 with siding, shingles or other material, that person does not have to be licensed as a deleader-contractor, provided that there is no sanding, grinding, scraping or other surface preparation which generates lead-contaminated dust. The person covering the exterior is not required to follow the medical, notification or work practice requirements of 454 CMR 22.00, but is required to follow the safety guidelines in the Department's construction regulations, 454 CMR 10.00, where applicable.

If the work is performed using a dust-generating method, it must be done by a licensed deleader-contractor. In such a case, the licensing, medical, notification and work practices requirements of 454 CMR 22.00 must be followed.

This policy applies regardless whether a lead inspection revealing dangerous levels of lead has been performed.

James F. Snow, Commissioner

Policy LP-5
Date 5/11/90

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Alameda County
Lead Abatement Program

QUESTIONS AND ANSWERS

1. **Question:** What is the purpose of the proposed County Lead Abatement Program?

   Answer: The principal goal of the proposed program is to protect children, both those currently at risk and future populations, from the dangers of lead in our environment. In support of this goal, the program seeks to provide education about the nature and prevention of the problem, facilitate screening and medical treatment, develop a competently-trained work force to deal with the problems of lead in our environment, and to reduce the quantity of lead in the environment.

2. **Question:** What is the problem with lead and how extensive is the problem?

   Answer: The U.S. Centers for Disease Control (CDC) has recently stated that "lead poisoning remains the most common and socially devastating environmental disease of young children." Even low levels of blood lead in young children have been shown to reduce intelligence and cause other developmental consequences. The primary source of lead poisoning in young children is from lead-based paint in houses. In a recent national survey, 80 percent of the houses on the west coast built before 1978 (the year federal regulations required the essential elimination of lead in household paint) had lead base paint present. In a study of children in the City of Oakland living in houses built before 1950, two-thirds of the children had blood-lead levels above 10 ug/dl, the level above which detrimental effects to children have been observed. The U.S. Agency for Toxic Substance and Disease Registry (ATSDR) estimates that over 25 percent of children in large SMSA'S such as San Francisco-Oakland, have blood-lead levels above 15 ug/dl.

3. **Question:** What are the major components of the proposed County Lead Abatement Program?

Answer: The major components of the program are:

- Community education and outreach to property owners
- Referral for blood-lead level screening and medical treatment
- Case management and monitoring of individuals
- Screening of residential properties for lead
- Abatement of lead in residential properties
- Professional education for contractors and medical personnel

4. **Question:** How will the program be financed?

Answer: The basic financing mechanism will be a County Service Area (CSA) that will initially assess each pre-1978 housing unit $10 per year. In addition, the program will seek additional Federal and State funding for demonstration lead abatement programs. Such funds are currently in the Bush Administration's proposed Federal Fiscal Year 1992 budget.

5. **Question:** Who will operate the program?

Answer: The program will operate under a Joint Powers Authority (JPA) consisting of the County and each participating city. Voting on the JPA would be proportional to the respective property assessment contribution from property located in each jurisdiction. The JPA would recommend an annual budget to the Board of Supervisors, the governing body of the County Service Area (CSA). The JPA would set policies, establish programs, and enter into contracts to implement the CLAP.

6. **Question:** What is the proposed first year budget for the program and the first year results?

Answer: The major components of the proposed first year budget for a countywide program are as follows:

Components	Budget	Results
Community Education Outreach/Marketing Mass Enrollment	$ 300,000	100,000 HH's Reached
Professional Education for Contractors & Medical Personnel	$ 100,000	50 Contractors
Referral for Blood-lead Level Screening & Medical Personnel	$ 150,000	3,600 Blood Screenings
Case Management & Monitoring	$ 150,000	750 Cases
Environmental Screening	$ 900,000	1,500 D.U.
Environmental Lead Abatement & Continued Monitoring	$2,400,000	80. D.U.
Administration, Financing & Grant Writing	$ 250,000	Federal & State Grant
TOTAL	$4,250,000	

7. **Question:** Will funds from one jurisdiction be used only in that jurisdiction?

   Answer: Yes, the funds that come from properties in one jurisdiction will only be used in that jurisdiction.

8. **Question:** If all of the cities in the County do not join in the district,how will the budget be adjusted? Can the program work if only a few cities join the district?

Answer: If all the cities in the county do not join the district, the budget and objectives contained in the proposal will be scaled down proportionately. For example, if only the cities of Alameda, Berkeley, Hayward, and Oakland, which along with the unincorporated county make up 69 percent of the pre-1978 housing, joined the district, then the first estimated year budget of the district would total $2.9 million instead of the $4.3 million budget included in the proposal for a countywide district. The objectives would be reduced proportionately in a similar manner.

The district can work if only a few cities join the district. The budget and objectives would be reduced to match the magnitude of participation. Currently (June 11), Oakland has agreed to join the district. With only the City of Oakland and the unincorporated county, the total estimated first year budget from assessments would be $1.9 million.

9/12/91
LEADQA

ALAMEDA COUNTY PLANNING DEPARTMENT
Housing & Community Development Program

ALAMEDA COUNTY LEAD ABATEMENT PROGRAM – FACT SHEET

THE PROBLEM

The U.S. Centers for Disease Control estimates that 17% of our nation's children are at risk of lead poisoning.

Lead is a neurotoxin. It poisons the brain and the central nervous system. Children under the age of seven are most at risk because their central nervous system is still developing. Children who ingest even small amounts of lead will suffer damage. Some of the permanent effects of lead poisoning are learning disabilities and hearing loss.

Lead-based paint is the most common source of lead poisoning in children. Children do not need to eat flakes of paint to become poisoned. Simple exposure to lead dust in the household environment may be enough to poison a child. While a physician may choose to hospitalize a severely poisoned child, public health professionals agree that the most important action is environmental intervention – the source of the poisoning must be addressed.

There are only a handful of contractors in the Bay Area who have had specific training in lead abatement. Studies have shown that traditional methods of paint stripping involving sanding or heat guns can severely poison workers and families.

THE RESPONSE IN ALAMEDA COUNTY

The Alameda County program is the result of over two years of work on the part of community activists, housing advocates, and health officials.

Part of the impetus for the program came from a study conducted by the State Department of Health which found alarming levels of lead in children's blood. The study was conducted in Oakland, Sacramento and Los Angeles. Sixty seven percent of the children examined in Oakland had blood lead levels above those now considered toxic by the Centers for Disease Control (CDC).

While some press reports have identified auto exhaust as a possible source of poisoning, exposure to deteriorating lead-based paint in the children's houses is usually a more important factor.

HUD estimates that on the West Coast, 80% of the houses built before 1978 were painted with lead-based paint. Alameda County has nearly one-half million housing units built before 1978 (453,000).

Armed with this information, community activists, especially People United for A Better Oakland (PUEBLO) began working with county staff to develop a program to address this problem.

The result is a program designed to be comprehensive and pro-active. One important feature is that the program involves an unprecedented collaboration between health and housing staff. The program has four key components:

1) Education and outreach to parents and to medical providers.

2) Referral of children for blood-lead screening, medical follow-up and case management.

3) Training of contractors and workers to abate lead in housing and soil safely.

4) Environmental assessments of houses and limited public financing of abatement.

A grassroots educational campaign can provide practical information to families threatened by lead in their environment. There are many steps which parents can take to minimize the risk to their children. Damp moping and cleaning of floors, window sills, and window wells with a high phosphorous detergent, like trisodium phosphate (TSP), can reduce lead dust levels. Good nutrition is also important. The more iron and calcium a child has in his or her body, the less lead their body will absorb.

Traditional case management has focused on blood testing with little environmental intervention. The Alameda County program will utilize a team approach involving public health nurses and sanitarians, housing rehabilitation specialists and community outreach workers.

The funding mechanism for the program will be a benefit assessment district. Property owners within the district will be assessed $10 per year per pre-1978 housing unit. Individual cities must pass resolutions requesting inclusion in the program. For the 1992-1993 funding cycle, the cities of Oakland, Berkeley and Alameda passed such resolutions. With these cities and the unincorporated area of the county, the program will include approximately 60% of the pre-1978 housing stock in Alameda County. The program hopes to leverage local dollars with federal grants from HUD, the CDC and the EPA.

IF YOU HAVE QUESTIONS, PLEASE CALL OUR HOTLINE: (510) 670-6438

JMR:A:\FACTS

Lead in Drinking Water

For use by inspectional, nursing, and outreach worker staff. This pamphlet help residents identify potential lead in water an what to do about it. Often given to parents of children with elevated blood lead levels. Developed by the Department of Natural Resources.

Lead in Drinking Water

LEAD

in Drinking Water

PUBL-WS-015 92REV Wisconsin Department of Natural Resources Bureau of Water Supply June 1992

Lead in Drinking Water

Lead is a toxic metal which has been used in the construction of most household plumbing systems in Wisconsin. Water within the plumbing system will continuously dissolve the lead it contacts. The rate can vary greatly with variations in natural water quality and the age of the plumbing system. Most water in Wisconsin is corrosive enough to dissolve some amount of lead. When the water stands motionless for extended periods of time, such as overnight, lead concentrations in the water can sometimes increase greatly.

There is growing evidence that even moderate levels of lead can be harmful to human health, and particularly to the health of small children and developing fetuses. For this reason, Wisconsin residents are advised to: 1) **run your water in the morning** for two or three minutes, or until it gets as cold as it will get, before you drink it, or 2) find out how much lead your water is dissolving from your plumbing system.

Whether your water comes from a community water system or your own private well, this brochure will discuss the lead issue in some detail, and will provide some specific recommendations for a variety of situations.

Lead in
Drinking
Water

How are people exposed to lead?

Lead is widespread in the environment, and people absorb lead from a variety of sources every day. Although lead has been used in numerous consumer products, the most important sources of lead exposure to the general population are:

- Outside air (from vehicle emissions and other sources)
- Soil and dust (which has been contaminated by air, and includes dust both inside and outside the home)
- Food (which can be contaminated by lead in the air or in food containers, particularly lead-soldered food containers)
- Drinking water (from the corrosion of plumbing systems)
- Lead-based paint

On average, it is estimated that lead in drinking water contributes between 10 and 20% of total lead exposure in young children. Food is the greatest single source of lead for the average adult. In the past few years, federal controls on lead in gasoline have significantly reduced total human exposure to lead.

How does lead affect human health?

Lead absorbed by the lungs and the digestive tract from all sources enters the bloodstream, where it distributes to all tissues of the body. Excessive levels of lead can damage the brain, kidneys, nervous system, red blood cells and reproductive system. The degree of harm is directly related to the level of lead in the blood (from all sources). Known effects of exposure to lead range from subtle changes in body chemistry and nervous system functions at low levels of exposure, to severe toxic effects or even death at very high levels associated with acute poisoning. Some harmful effects are reversible if exposure is reduced, while other harmful effects can be permanent.

Does lead affect everyone equally?

Young children, infants and fetuses appear to be particularly vulnerable to harmful effects of lead. A dose of lead that would have little effect on an adult can have a big effect on a small body. Also, growing children will more rapidly absorb any lead they consume. A child's mental and physical development can be irreversibly stunted by over-exposure to lead. In infants, whose diet consists of liquids made with water — such as baby formula — lead in drinking water makes up an even greater proportion of total lead exposure (40 to 60%).

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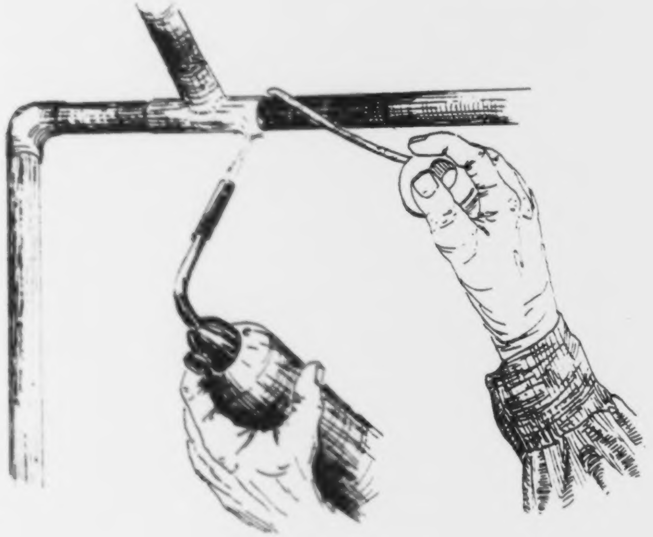
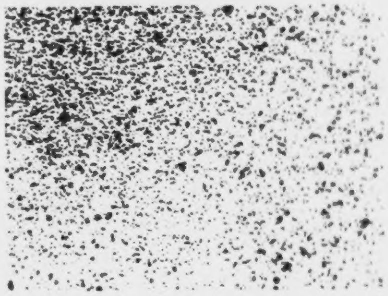
E

How can lead get into my drinking water?

Most Wisconsin drinking water **sources**, either wells or lake water intakes, have little or no measurable levels of lead. The source of lead in the drinking water of most Wisconsin homes is most likely lead pipe or solder in the house water supply plumbing, or lead service lines which were previously used in some areas to join buildings to street water mains.

Under typical circumstances, lead will dissolve continuously into the water. The concentration of lead in drinking water can vary greatly, depending on the corrosivity of the water, the type and age of the plumbing materials used in the house, and the length of time that the water stands in the pipes. The highest levels of lead occur when very corrosive water stands motionless in lead or lead-soldered copper pipe for long periods of time.





Lead

Can I tell if my water is corrosive?

Corrosivity varies greatly with water quality, but hard water is generally less corrosive than soft water. Nevertheless, hard water alone does not always guarantee that there will be no elevated lead levels.

A greenish discoloration and unpleasant taste of tap water are indications that copper pipes are corroding, but corrosion can occur even if there are no visible indications.

A D

Does my home's age make a difference?

The age of a house relates to the type of plumbing system that can be expected. Through the early 1900s, lead pipes were commonly used for interior plumbing in some areas. Until the 1940s, lead piping was often used for the service lines that join buildings to street water mains. Lead piping can be recognized as a dull-grey metal which is soft enough to be easily scratched with a house key or screwdriver. Scratched lead will be shiny underneath.

In the 1930s, copper pipes or galvanized steel pipes replaced lead pipes in most residential plumbing. However, the use of 50/50 tin/lead **solder** and lead-containing fluxes to join copper piping continued in Wisconsin until a ban on the use of lead solder and fluxes became effective on September 26, 1984. Homes constructed after that date should have "lead-free" water supply plumbing systems. Also, any repairs of existing plumbing systems must be made with "lead-free" materials, such as tin/antimony (95/5) solder.

Studies indicate that the levels of dissolved metals in drinking water will **decrease** as a building ages. This is because, as time passes, a mineral or oxidation coating forms on the inside of the pipes (if the water is not too corrosive). This coating can partially insulate the water from the lead materials, significantly reducing levels of dissolved lead.

How does time affect lead levels?

The longer water stands in a pipe the more lead can be dissolved. Because lead will continuously dissolve into the water, the resulting lead concentrations will increase directly with time. This is why water which is drawn first thing in the morning, or after any extended period of nonuse, will contain the highest levels of lead.

How much lead is too much?

Federal and state standards have established an action level of 15 parts per billion (ppb) for lead in drinking water. The standard is adjusted to account for average lead exposures from other environmental sources as well. Nevertheless, lead has no beneficial health effects, and it is advisable to reduce the lead in your tap water as much as possible. This is particularly true for pregnant women or young children who may drink the water.

How can I reduce my exposure to lead in drinking water?

If your house was constructed before October, 1984, the easiest and most effective method of reducing lead in drinking water is not to drink water that has been in contact with your house plumbing for more than 6 hours, such as overnight or during your work day. Before using water for drinking or cooking, flush the cold water faucet by allowing the water to run until the water has become as cold as it will get (usually 2-3 minutes).

You must do this for each drinking water faucet — taking a shower will not flush your kitchen tap. Shower, toilet, or cold water laundry use will, however, partially flush the plumbing, and will often reduce the time needed to flush drinking water faucets. Buildings constructed prior to the 1940s may have service lines made of lead. Letting the water run for an extra 15 seconds after it cools should also flush this service line.

Studies by the DNR have shown

that such flushing can reduce lead levels from hundreds of parts per billion to less than 3 parts per billion (the current detection limit at the State Laboratory of Hygiene). Water flushed from the taps — usually one to two gallons — can be collected and used for nonconsumptive purposes such as washing; it needn't be wasted. (NOTE: The flushing procedures outlined above will usually be inadequate in large buildings such as apartment complexes.)

Another recommendation for reducing lead exposure is to **never cook with or drink water from the hot-water tap.** Hot water dissolves lead more quickly than cold water. So, do not use water taken from the hot tap for cooking or drinking and **especially not for making baby formula.**

Must every plumbing system be flushed in the morning?

Not in all cases. The DNR recently tested approximately 200 "first-draw" samples from homes in areas with high water hardness, and found little or no detectable lead in homes which met **all** of the following conditions:

- Very hard, alkaline water (generally total hardness greater than 300 parts per million, reported "as calcium carbonate")
- Water supply plumbing system more than five years old
- No lead piping
- No lead service line connecting to street water main

The individuals in these homes do not need to flush their house plumbing if water is used daily and many others with a similar situation will probably find few problems. You can contact your water utility or supplier for information on the level of water hardness in your area, as well as other information available on first-draw lead levels in the area.

A word of caution: with the limited data available, it is not possible to **guarantee** that all homes with the above characteristics will have little or no detectable "first-draw" lead levels. If you do not have your water tested, flushing is a simple precaution.

Should I have my water tested?

There are certain obvious advantages to having your water tested for lead, including knowing exactly how high your lead levels rise after periods of nonuse. Even if you live in an older home with no lead piping and are in a hard water area, a lead test can confirm that there is little or no lead in your "first-draw" sample. If testing shows lead in your first drawn water, a lead test before and after flushing can confirm if your flushing procedure is working.

If you decide to have your water tested, it is recommended that you use a state **certified** laboratory which can detect lead in drinking water at 5 parts per billion or less. Your water supplier or your local DNR office can provide a list of laboratories currently certified to test for lead.

Persons served by a public water system should contact the system owner to determine whether there has already been testing of homes with plumbing materials and an installation date similar to yours.

My house is new. What should I do?

If your house was constructed after September 26, 1984, state law requires that the soldered joints be "lead-free". To check on this, try to scratch the outside of the solder at a pipe joint with a housekey or screwdriver. If the solder is dull in appearance, scratches easily, and is shiny underneath, it may be illegally-installed 50/50 lead/tin solder. Tin/antimony (95/5) solder, the typical replacement for lead solder, remains bright in appearance, and there is often a slight gap or indentation in the solder where the pipe and fitting meet. Lead solder usually bridges this gap completely.

If you suspect that lead solder was used in the construction of your plumbing system, have a "first-draw" sample of your water tested for lead. If lead is found at levels over 10 ppb, contact your local plumbing inspector or the Wisconsin Department of Industry, Labor and Human Relations, Bureau of Plumbing, for further advice. (Lead often occurs in other metallic alloys such as brass and bronze and small amounts can occur in copper pipe itself.)

I own a private well. What else should I be concerned about?

In addition to plumbing corrosion concerns, there are several other potential sources of lead in private wells. If your well draws water from a sand and/or gravel formation, you should know that some well screens contain lead, and many have been installed with a "lead packing collar". If such a device is contributing lead to your water, flushing will probably take longer. It is recommended that you have your water tested for lead.

If you own a "driven-point" well, and if you have ever "shot" the well to clear the screen, you have another potential source of lead in your water. Some individuals have actually poured lead shot into a well to keep out sand. Lead wool has also been placed in some wells. (None of these practices has ever been recommended.) In any of these cases, it is recommended that you have your water tested for lead.

If you live in a former "lead-zinc" mining region of extreme southwest Wisconsin or if you live near existing or former cherry orchards in Door County, you may have lead in your **groundwater**. It is recommended that you have your water tested for lead.

If you have lead in your groundwater, flushing will not be effective. Point-of-use treatment devices, such as "reverse osmosis" and distillation units can be effective in removing lead. However, they can be expensive, their effectiveness varies, and they must be properly maintained. All makes and models of treatment devices must be approved by the Wisconsin Department of Industry, Labor and Human Relations. Because of the wide variability in groundwater quality and interferences with treatment efficiency, each installation must be approved by DNR.

If a treatment device is installed, set up an effective and practical maintenance and monitoring program to be sure the system is maintained as recommended by the manufacturer. This is the best way to be certain that it is doing the job intended.

(**NOTE:** Activated carbon filter, sand filters, and cartridge filters do filter out some water contaminants but they **do not** remove lead and they do nothing to prevent corrosion.)

Bottled water is also an alternative.

What is the State of Wisconsin doing about the problem of lead in household water?

- The Wisconsin Department of Industry, Labor and Human Relations (DILHR), with the support of the DNR and the Wisconsin Department of Health and Social Services, passed a ban on lead solder and lead-containing fluxes on September 26, 1984. Lead service lines were banned by DILHR in November, 1972.
- The Wisconsin Well Code prohibits the use of lead in any well or pump component.
- The DNR has adopted the federal action level of 15 parts per billion for lead.
- The DNR will continue to work with community water systems to reduce the corrosivity of the water through central treatment. System-wide corrosion control can be designed to either reduce the actual corrosivity of the water, or to coat the piping with an additive which acts as a barrier between the pipe and the water.
- The DNR will continue to provide updated information on the issue of lead in drinking water.

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Where can I get more information?

Any unanswered questions about lead in drinking water can be directed to your water supplier or to one of the DNR district offices listed below. Questions pertaining to lead and your health should be directed to your family physician or your local health department..

This brochure was prepared in cooperation with the Wisconsin Department of Health and Social Services and the Wisconsin Department of Industry, Labor and Human Relations.

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DISTRICT OFFICES

NORTHWEST DISTRICT
Department of Natural Resources
Box 309
Spooner, WI 54801
(715) 635-2101

NORTH CENTRAL DISTRICT
Department of Natural Resources
Box 818
Rhinelander, WI 54501
(715) 362-7616

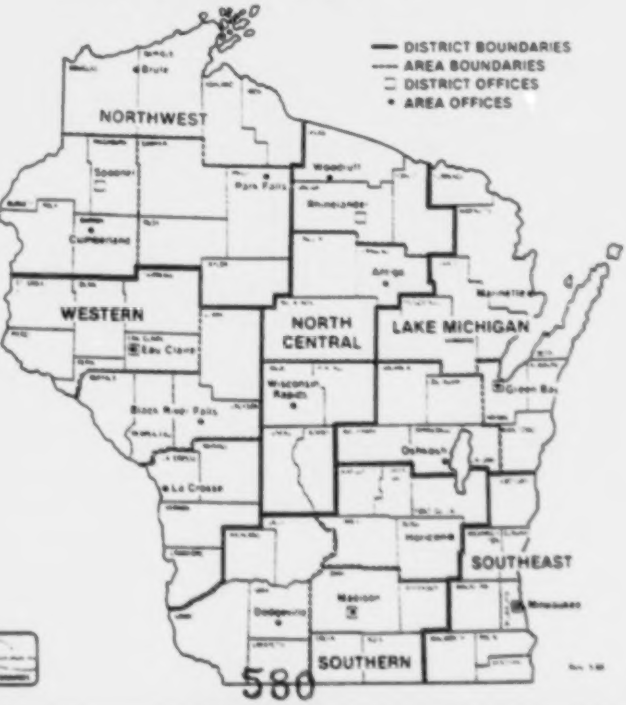
WESTERN DISTRICT
Department of Natural Resources
1300 W. Clairemont Avenue,
Box 4001
Eau Claire, WI 54702
(715) 839-3700

LAKE MICHIGAN DISTRICT
Department of Natural Resources
1125 N. Military Avenue,
Box 10448
Green Bay, WI 54307
(414) 492-5800

SOUTHEAST DISTRICT
Department of Natural Resources
2300 N. Dr. Martin Luther King
Jr. Drive,
Box 12436
Milwaukee, WI 53212
(414) 263-8508

SOUTHERN DISTRICT
Department of Natural Resources
3911 Fish Hatchery Road,
Fitchburg, WI 53711
(608) 275-3266

DNR FIELD DISTRICTS AND AREAS


DISTRICT BOUNDARIES
AREA BOUNDARIES
DISTRICT OFFICES
AREA OFFICES
NORTHWEST
Brule
Spooner
Cumberland
Park Falls
Woodruff
Rhinelander
Antigo
Marinette
WESTERN
Eau Claire
NORTH CENTRAL
LAKE MICHIGAN
Wisconsin Rapids
Black River Falls
Green Bay
Oshkosh
La Crosse
Horicon
SOUTHEAST
Madison
Dodgeville
Milwaukee
SOUTHERN

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Lead and Your Drinking Water

You probably take for granted that the water that comes out of your tap is safe for drinking and cooking. But this may not be so. If your home is very old or very new, or if you have soft water, or if you have lead water pipes or copper pipes with lead solder, the level of lead in the water coming from your tap could be very high. This puts you and your family in serious danger of lead poisoning. Too much lead in your body can cause serious damage to the brain, kidneys, nervous system and red blood cells. Fortunately though, there are precautions you can take to avoid lead poisoning.

Doses of lead that would have little effect on adults can seriously impair a small child's physical and mental development.

Young children and pregnant women are most at risk to lead overexposure. Doses of lead that would have little effect on adults can seriously impair a small child's physical and mental development. Infants whose diets consist of liquids made with water—such as baby formula—are particularly at risk. Also an expectant mother can pass on high amounts of lead to her unborn fetus.

If you live in a house that is less than 5 years old and lead solder was used with your copper piping, chances are your water has high levels of lead contamination and should be tested. You are also at high risk if the plumbing in your home was installed before 1930, since lead pipes were commonly used then. Since you cannot see, taste or smell lead dissolved in water, the only way to find out the amount of lead in your drinking water is to have it tested by a competent laboratory. Your local health department or water company may be able to do the test for you or recommend someone who is qualified.

If the testers find that your drinking water is contaminated with lead, or you want to be safe while you are waiting for the test results, there are two things you can do immediately to reduce your exposure. First, don't use water that has been in contact with your home's pipes for more than six hours. The longer the water sits in the pipes the more lead contaminants it picks up. Before using any water, "flush" the cold-water faucet by running it until it becomes as cold as it can get. Secondly, use only water from the cold-water tap for drinking, cooking and especially for making baby formula. If you need hot water, draw water from the cold tap and heat it. Hot water from the tap is more likely to contain higher levels of lead because lead dissolves more quickly in hot water.

There are other things you can do to reduce your exposure to lead. You can buy treatment devices. The effectiveness of such devices can vary, however, so before purchasing one, check with your local health department. Remember that carbon filters, sand filters and cartridge filters do not effect the amount of lead in your water. You can also reduce your lead intake by purchasing bottled water, and by instructing any plumber you hire to use only lead-free materials for repairs.

It is rather upsetting to learn that something as basic as water from your tap can't be taken for granted. A little precaution and persistence now can help assure that you and your family will remain healthy in the future.

■

Courtesy of the
CONSUMER INFORMATION CENTER

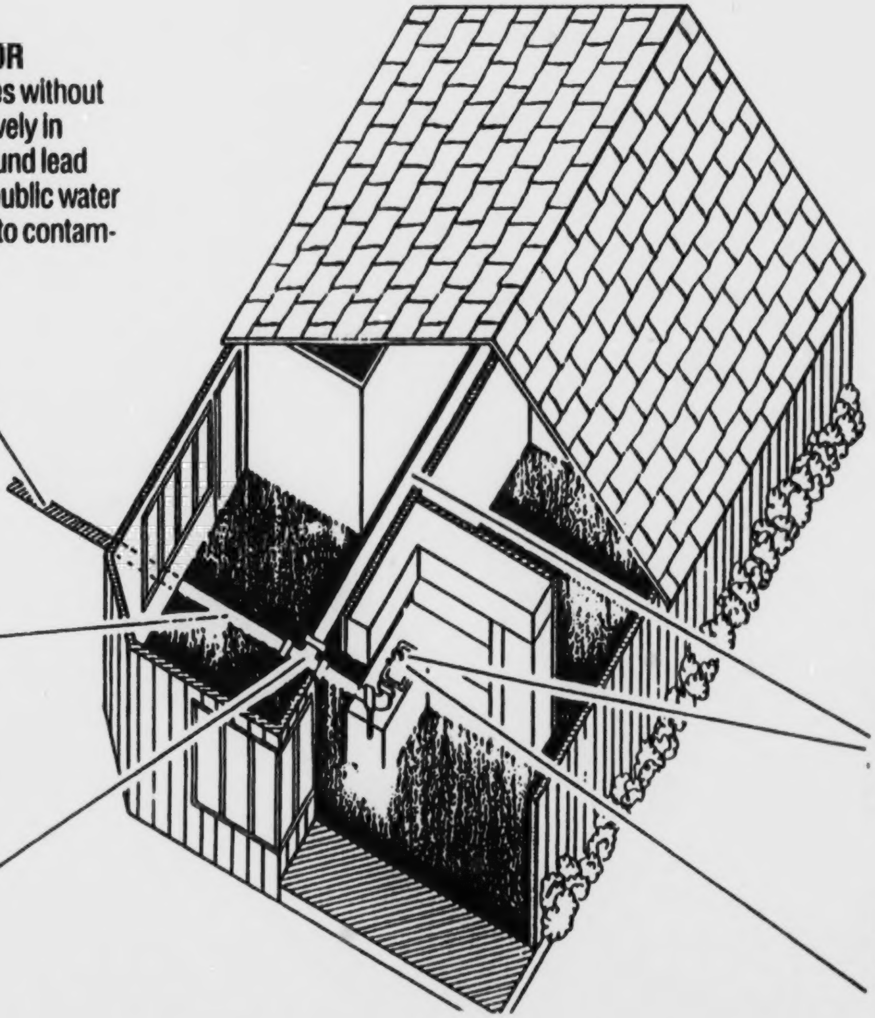
For tips on how to make the water you drink safe, send for the Environmental Protection Agency's booklet, Lead and Your Drinking Water. *It will tell you who is at risk, what the causes of lead in drinking water are, and how to go about getting your water tested for lead content. For your copy of* Lead and Your Drinking Water, *send your name and address and 50 cents to Department 424T, Consumer Information Center, Pueblo, Colo., 81009.*

LEAD "HOT SPOTS" IN THE HOME*

HOUSEHOLD LEACHING The source of lead in household water is most likely leached from lead pipes and solder found in the home.

BUILDINGS LESS THAN 5 YEARS OLD The newer the home, the greater the danger of lead exposure. Water in buildings less than 5 years old can have high levels of lead contamination because mineral deposits have not yet formed an insulation coating between the water and lead in the pipes.

PLASTIC PIPES/LEAD CONNECTOR PIPES Although safe plastic pipes without lead solder have been used extensively in construction since 1986, underground lead connector pipes, found in 25% of public water systems across the U.S., continue to contaminate household water.



LEAD PIPES Lead pipes are very common in home plumbing installed before 1930.

COPPER PIPES & LEAD SOLDER Lead solder used on copper pipes is a major cause of lead contamination in household water. Use of lead solder was outlawed in 1986, but it continues to be illegally used.

SOFT WATER Soft water commonly causes a corrosive reaction between water and lead pipes or solder and can increase the potential of lead contamination. Check to see if you have soft water. Water softeners should not be connected to pipes leading to cold drinking-water taps.

STAGNANT WATER IN PIPES Lead builds up in water that has remained stagnant in home pipes over time. Flush your water by running it for 15 seconds when faucets haven't been used for more than 6 hours. Note: This may prove ineffective in high-rise buildings.

HOT WATER Hot water dissolves lead more quickly than cold water. Never use hot tap water for cooking, drinking or

LA NUTRICION Y EL ENVENENAMIENTO CON PLOMO

EL ENVENENAMIENTO CON PLOMO es un problema significativo en los Estados Unidos de América, en particular para los niños que viven en áreas urbanas.

Los pedazos de PINTURA VIEJA que se desprenden de las paredes (a menudo los niños pequeños la comen) y el plomo atmosférico, mayormente de la gasolina, son fuentes significativas de plomo.

OTRAS fuentes de intoxicación pueden ser el agua, terrenos y polvo contaminados, papel de periódico, joyería metálica, cosméticos, envases flexibles (ejemplo: el tubo de pasta dental) y cualquier material que contenga soldadura como la unión de las latas de metal. El plomo en alimentos enlatados es menor cuando éstos son envasados en latas de aluminio sin unión o en latas fundidas.

Fuentes ALIMENTARIAS de plomo incluyen:

.Alimentos ácidos como frutas, jugo de frutas, tomates y alimentos encurtidos que se dejan en latas abiertas. Por ejemplo, la cantidad de plomo en una lata de jugo de naranja o china se triplica en un par de días.

.Alimentos ácidos en contacto con platos, tazas y ollas de cerámica glazeada de mala calidad.

.Alimentos de latas con abolladuras en la unión.

.Alimentos de cualquier lata unida con soldadura.

ES BIEN IMPORTANTE TRANSFERIR EL CONTENIDO
DE LATAS DE ALIMENTOS ABIERTAS A ENVASES
DE CRISTAL O PLASTICOS INMEDIATAMENTE

EL IDENTIFICAR y remover la fuente de la exposición al plomo es importante en el tratamiento y prevención de la intoxicación con plomo.

LAS PERSONAS que sufren de anemia por deficiencia de hierro absorben el plomo más facilmente que aquellos con niveles de hierro normales; por lo tanto, anemias sin razón aparante deben ser examinadas a ver si hay envenenamiento con plomo.

Las personas BIEN ALIMENTADAS tienen mayor resistencia a la intoxicación con plomo. El tratamiento nutricional, que es más preventivo que terapéutico debe proveer:

.Comidas y meriendas regulares con suficientes calorías para permitir el crecimiento y mantenimiento del peso.

.Una variedad de comidas de los grupos básicos de alimentos.

.Una reducción en la cantidad total de grasa dietética, puesto que la grasa tiende a aumentar la absorción de plomo.

(Continúa al reverso)

.LOS NIÑOS PEQUEÑOS PODRIAN REQUERIR LECHE INTEGRA. CONSULTE AL MEDICO.

EJEMPLO DE UN MENU

Desayuno
Naranja o china
Queso-Pan de trigo íntegro tostado
Leche sin grasa

Merienda
Galletas "Graham"
Leche sin Grasa

Almuerzo
Ensalada de Atún
Pan Enriquecido
Lechuga y Tomate
Melón Cantaloupe
Leche sin grasa

Merienda
Galletas de Trigo Integro
Queso
Pera

Comida
Pollo Guisado con Zanahorias
(con poco aceite)
Plátano Salcochado
Ensalada de Verdes-Aderezo
Manzana
Leche sin Grasa

Merienda
Cereal
Guineo
Leche sin Grasa

PARA INFORMACION SOBRE PRUEBAS DE PLOMO EN LA SANGRE

-Depto. de Salud, Ciudad de Nueva York, Negociado de Envenenamiento con Plomo   65 Worth St.   334-7893
-Su Centro de Salud u Hospital Municipal

Publicado y Distribuído por:
Negociado de Nutrición
Departamento de Salud
Ciudad de Nueva York
93 Worth Street, Room 714
New York, NY 10013

Mensajes Grabados sobre Nutrición:
Llame al 431-4558 (Español)
431-4550 (Inglés)

TITLE OF MATERIAL: **Beware: Lead Paint Poisoning is a Danger to Our Children**

DESCRIPTION: This material is the result of mothers in the city of Milwaukee coming together to "Get the Lead Out". It offers information on a purely grassroots level.

INTENDED AUDIENCE:The audience is of a universal nature. However, it is specifically directed at welfare mothers.

LIMITS OF THE MATERIAL: Information is functional and effective with urban populations. It is Not effective with highly educated, high socio-economic groups.

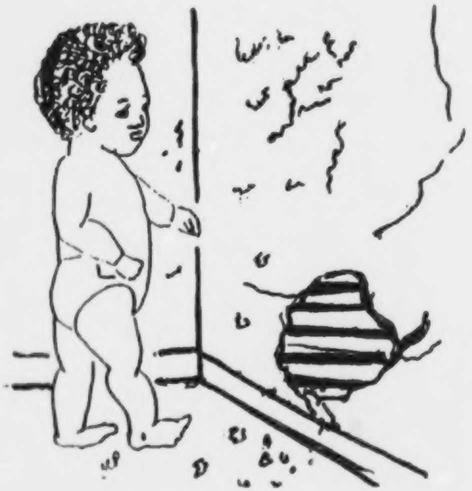
AGENCY: Now available from the Lead Poisoning Prevention Education and Training Program, Rm. 719, Martland Building, Newark, New Jersey.

WHAT HAPPENS IF A CHILD IS POISONED?

Lead interferes with normal body functioning. It reduces the flow of oxygen to the brain and nerves. It also harms other tissues.

Lead poisoning can result in:

- Short attention span
- Hyperactivity
- Poor appetite
- Seizures
- Retardation
- Clumsiness
- Muscle and joint pain
- Learning disabilities
- and even death



WHAT CAN YOU DO IF YOUR CHILD IS POISONED?

1. Get medical treatment for your child from your HMO or private doctor.
2. Ask your landlord to remove the leaded paint.
3. Take pictures of the areas of chipping and flaking paint.
4. Consider contacting a lawyer for advice.
5. If necessary, make arrangements to move to a new house.
6. Have the Health Department inspect your new house before you put down a deposit.
7. Call Sara Brooks of **GLO** at 463-4024 or Welfare Warriors at 444-0220 for more information.

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BEWARE

LEAD PAINT POISONING IS A DANGER TO OUR CHILDREN

MILWAUKEE MOTHERS ARE
COMING TOGETHER TO
GET THE LEAD OUT
(GLO)

CALL 463-4024 FOR
MORE INFORMATION

WHO CAN BE POISONED?

Children of any race especially those between 6 months and 6 years.

Children who live in old houses built before the 1950's. (These houses usually have lead paint in them.)

HOW DO OUR CHILDREN GET POISONED?

Crawling babies and toddlers may put paint chips in their mouths. (They find paint chips inside or outside on the ground near the house.)

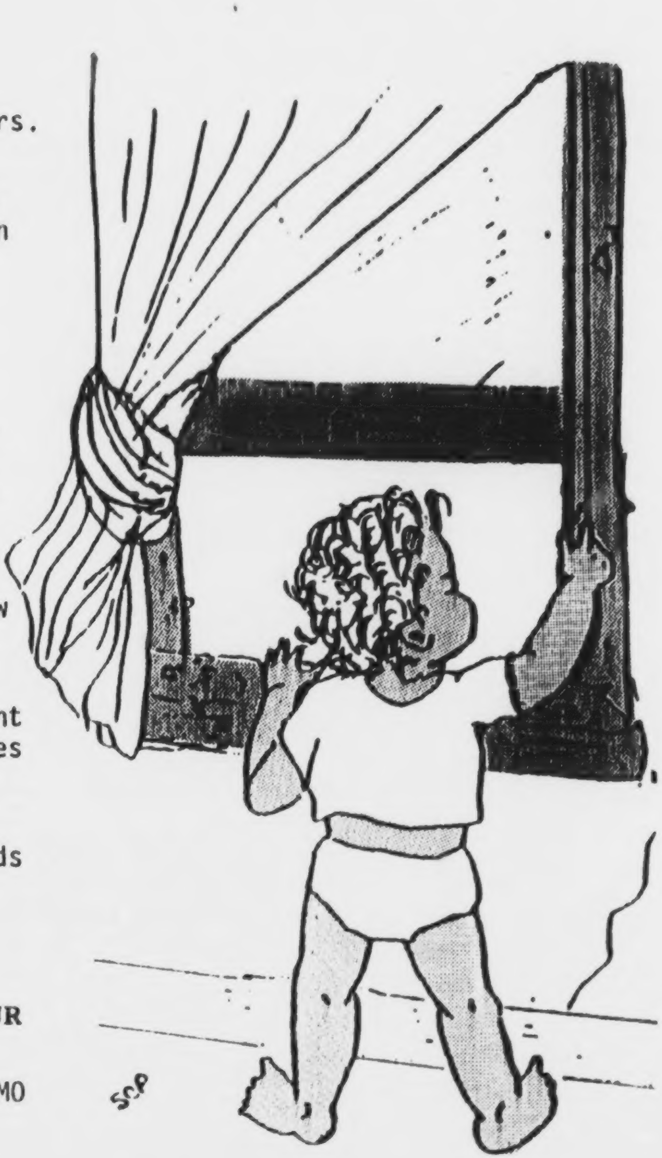
Small children may chew on window sills, crib railings, or toys painted with lead paint.

Children may pick up outside paint from open windows and from porches with flaking paint.

Small children can pick up lead paint dust or chalk on their hands and later put their hands into their mouths.

HOW CAN YOU FIND OUT IF YOUR CHILD IS POISONED?

1. Ask your private doctor or HMO clinic to do a blood test.
2. If you don't have a doctor, call the Health Department at 278-3616 for the location of a free screening clinic.



CAN A MOM PREVENT LEAD POISONING?

Sometimes - *but only if caught in time.*

1. Notice if your child is:
   - spending a lot of time in one area of your house.
   - sucking, chewing or eating non-food items such as paint chips.
   - unusually clumsy, hyperactive, or has a poor appetite which can be early signs of lead poisoning.
2. Check your house for chipping or flaking paint.
3. Call the Health Department at 278-3538 to check the paint for lead.
4. *Do not* sand or scrape chipping or flaking paint.
5. Use a damp cloth or mop to pick up paint or plaster chips or dust.
6. Cover areas of peeling or flaking paint with cardboard and tape or contact paper.
7. Until the landlord can permanently remove the lead paint, you may want to move to a safer place.

TITLE: Lead -- Is Your Child at Risk

SOURCE: Channing L. Bete Co. Inc.

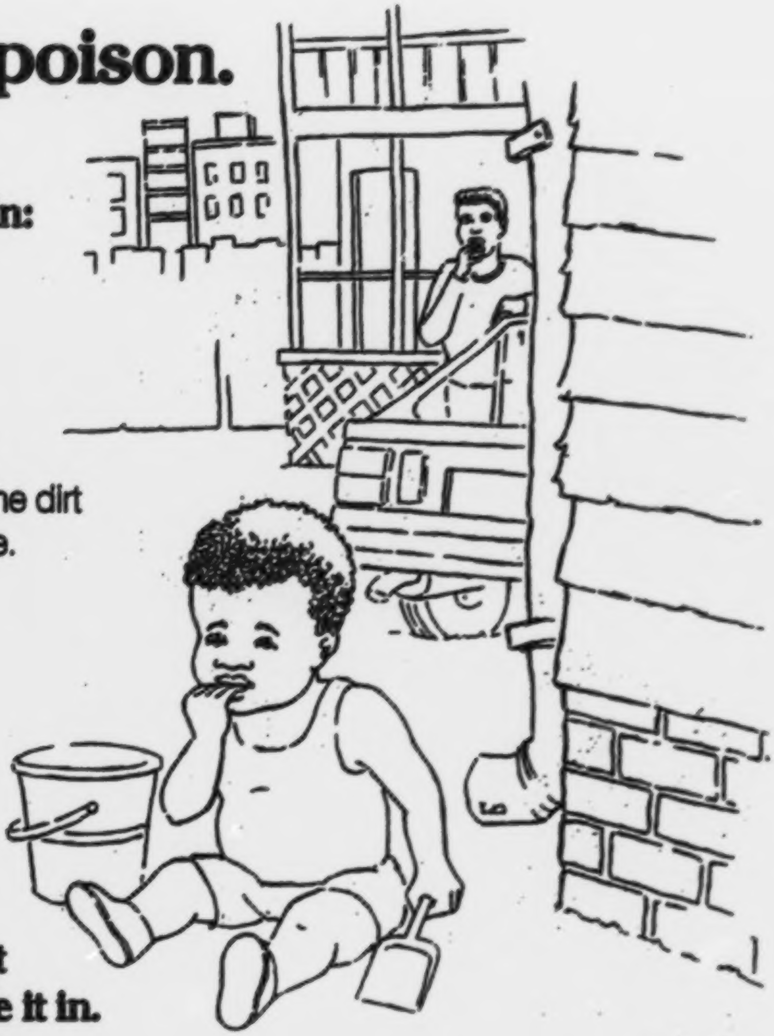
USE OF MATERIAL: Communicating dangers of lead to a low literacy audience.

TARGETED AUDIENCE: Parents

Lead

--Is your child at risk?

Lead is poison.



It's found in many homes, in:

- paint
- dust
- tap water
- glazed pottery.

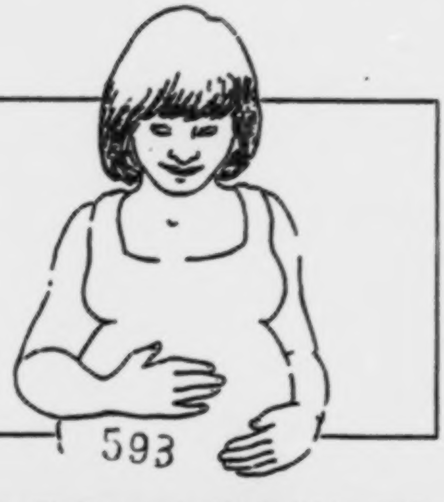
It may also be in the dirt outside your home.

A child may eat lead or breathe it in.

Lead dust on fingers can get into a child's mouth.

A woman with lead in her body can give it to her baby:

- before birth
- when she breast-feeds.



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Booklet

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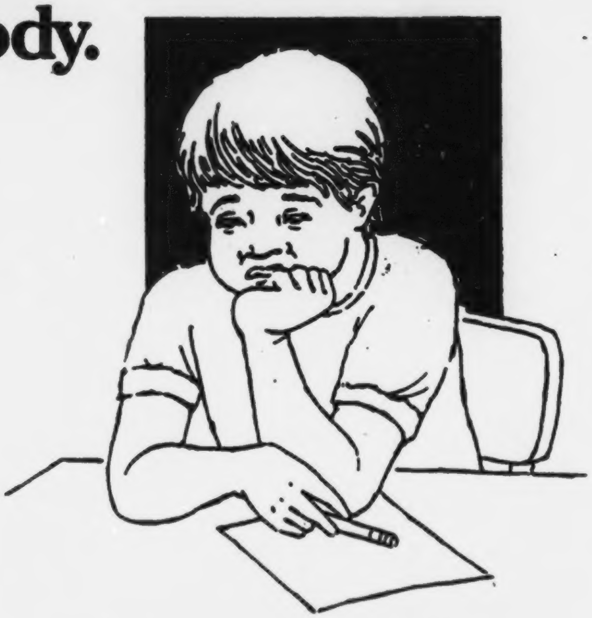
To reorder phone 1-800-628-7733 or write Channing L. Bete Co., Inc., 200 State Road, South Deerfield, MA 01373. Ask for booklet number 40394A-7-92.

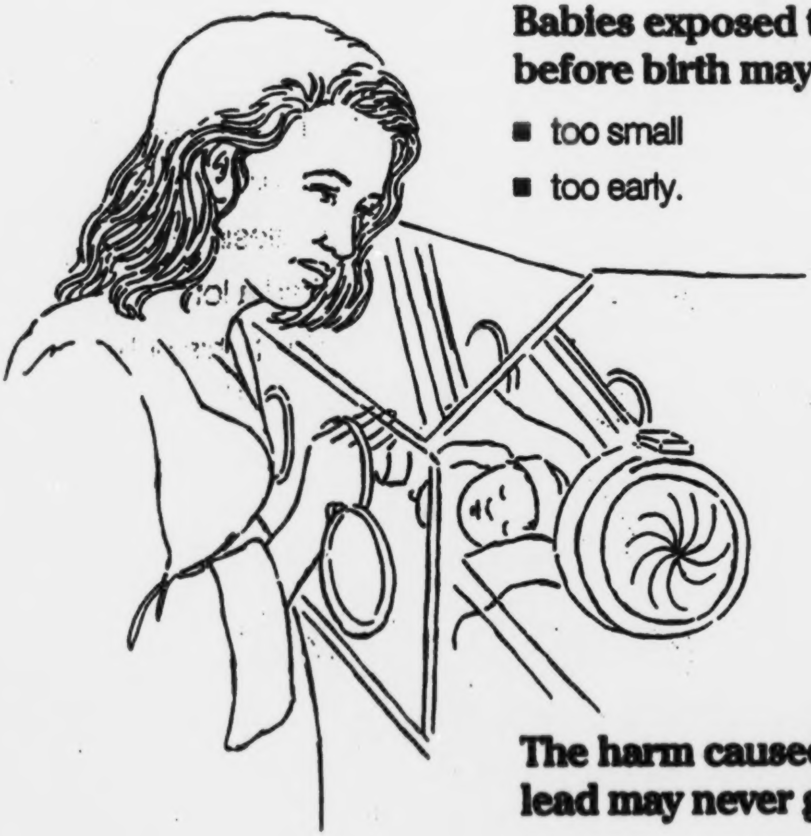
Lead hurts the mind and body.

Lead can cause problems
that make it hard
for your child to learn.
It can cause health
problems, too.
It can even kill.



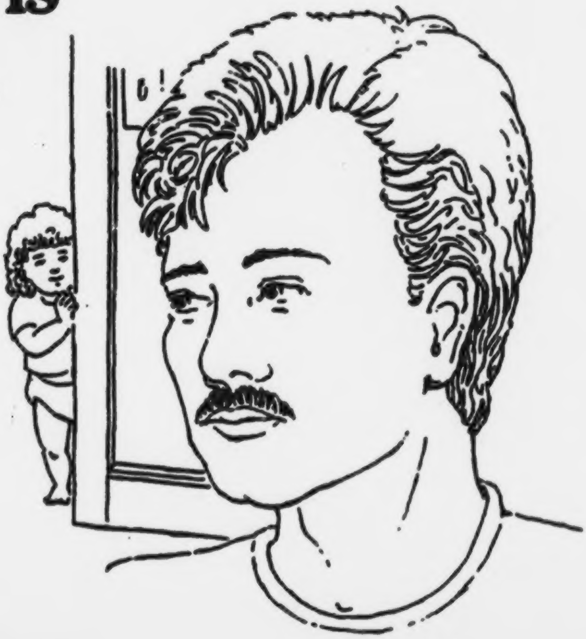
Babies exposed to lead before birth may be born:

- too small
- too early.



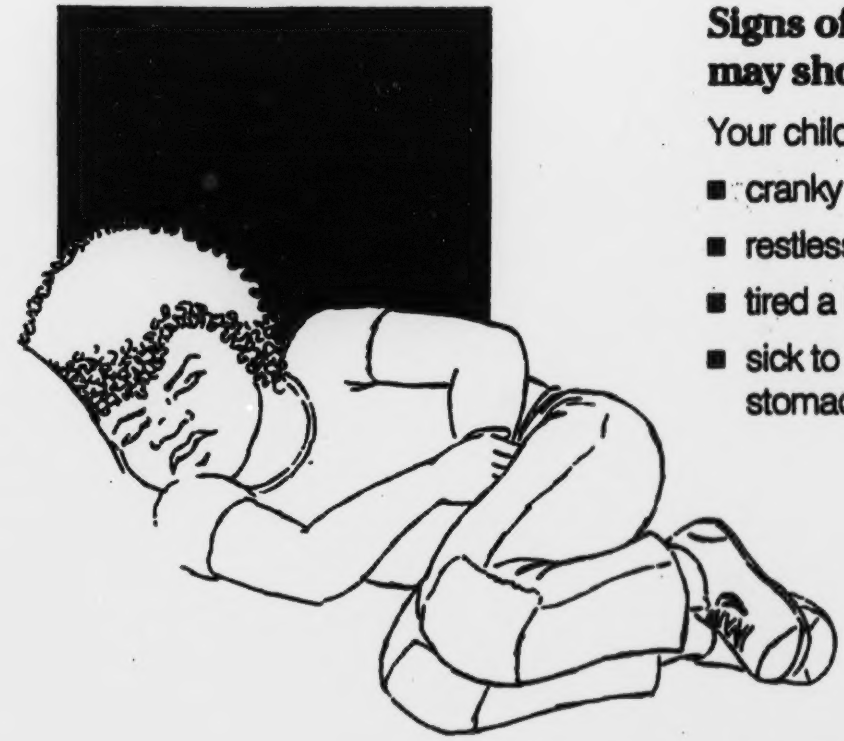
The harm caused by lead may never go away.

The danger is hard to see.



Don't be fooled!

A child can be hurt
by lead and still look fine.



Signs of damage may show up later.

Your child may get:

- cranky
- restless
- tired a lot
- sick to his or her stomach.

595

But don't wait for signs like these.
By then it may be too late
to prevent lasting harm.

Have your child tested for lead.

Every child under 6 needs to be tested.

Have the first test done at 6 months. This simple blood test may be done at:

- your doctor's office
- a local health clinic.

Ask your health-care worker when your child needs to be tested again.

Pregnant women need to be tested, too.

An unborn baby is easily hurt by lead.

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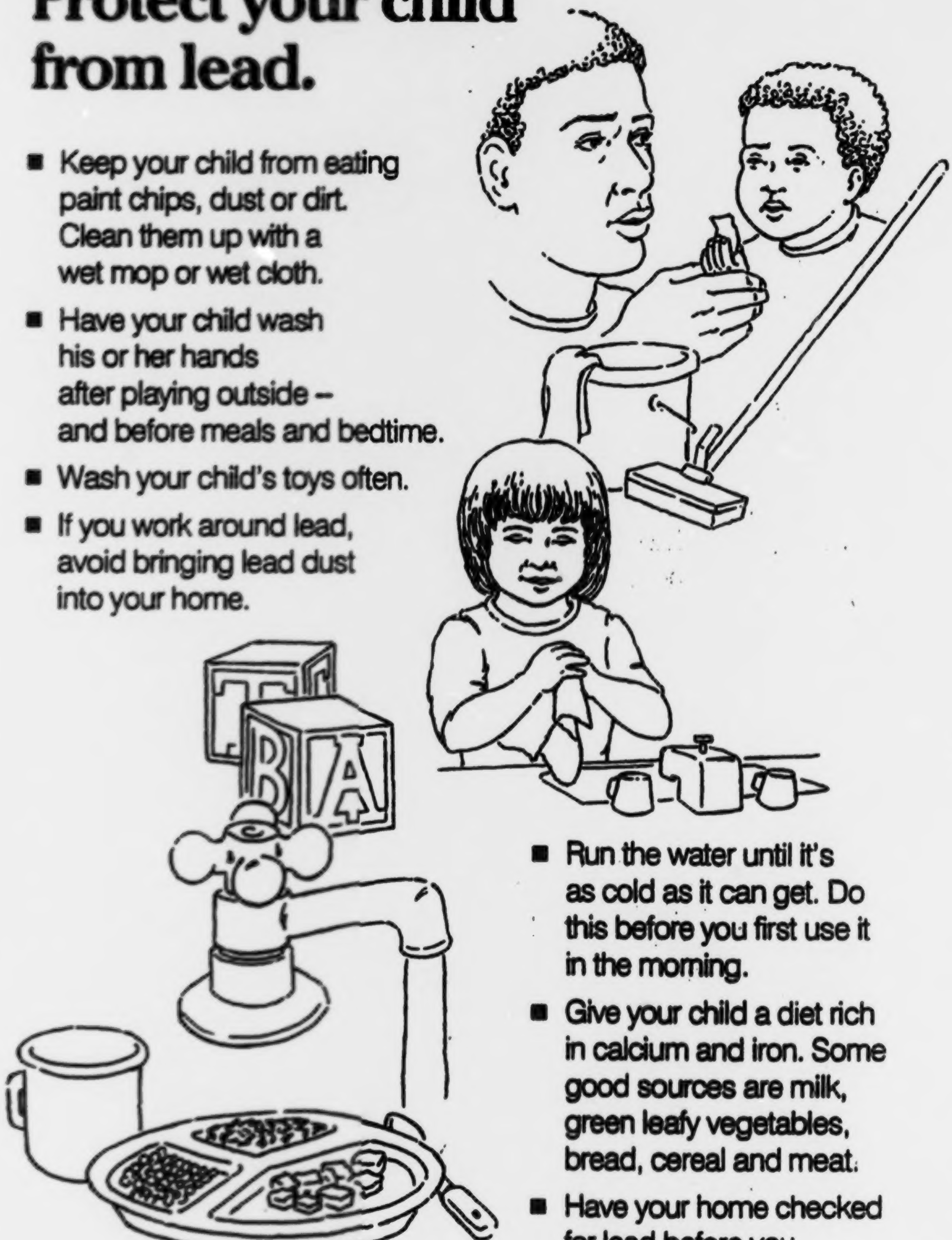
Protect your child from lead.

- Keep your child from eating paint chips, dust or dirt. Clean them up with a wet mop or wet cloth.
- Have your child wash his or her hands after playing outside -- and before meals and bedtime.
- Wash your child's toys often.
- If you work around lead, avoid bringing lead dust into your home.

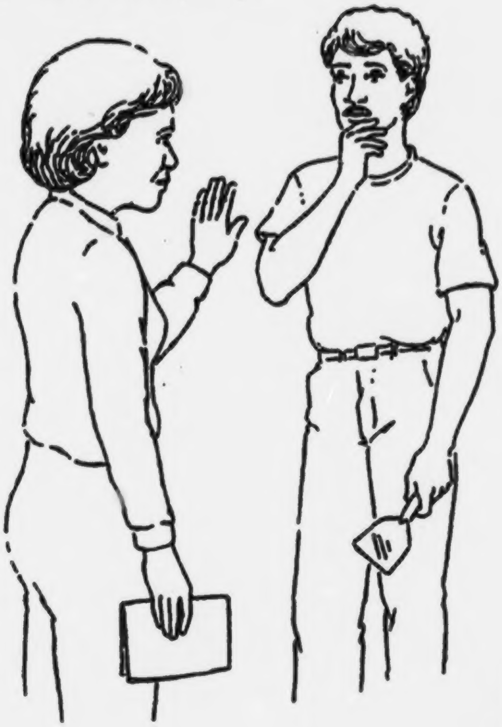


- Run the water until it's as cold as it can get. Do this before you first use it in the morning.
- Give your child a diet rich in calcium and iron. Some good sources are milk, green leafy vegetables, bread, cereal and meat.
- Have your home checked for lead before you remodel.

Take action against lead in your home.

To find out about having your house and water tested for lead, call your:

- local health department
- housing authority
- water company.



Get expert help if you have a problem with lead.

Don't try to remove lead paint by yourself.

You may be able to get help with the cost of lead cleanup. Call your health department to find out.

Keep your child safe from lead.

TITLE: ***Nutrition and Lead***

DESCRIPTION: A black, white and red brochure for the lay public on the importance of good nutrition to help reduce the uptake of lead. It also suggests caution with leaded crystal, tin cans, and lead glazed pottery. The brochure encourages parents to take their children for lead tests and to call their local health department for more information about lead.

INTENDED AUDIENCE: parents and lay public.

LIMITATION OF THE MATERIAL: It was not meant to give a full range of information about all aspects of lead. The lay public was meant to contact their local health department for further information.

AGENCY: The material is available from the
Lead Poisoning Prevention Education and Training Program,
301 South Central Plaza-Laurel Road, Suite 1600
Stratford, New Jersey 08084

CONTACT: Joan Cook Luckhardt
908-329-3429 or 609-782-6034

COST: None, but quantities are limited.

■ Give the child foods rich in calcium. Some foods high in calcium include:

- ☐ milk (3 cups a day),
- ☐ yogurt,
- ☐ cheese,
- ☐ foods made with milk (pancakes, custards, muffins), and
- ☐ green leafy vegetables (kale, turnip greens, mustard greens, spinach).

■ Avoid fatty foods, which lets their bodies absorb lead faster. Follow these hints to avoid fatty foods.

- ☐ broil, bake or boil your foods: avoid frying foods.
- ☐ buy lean meats and trim off the fat.
- ☐ avoid potato chips, French fries, pastries, donuts.
- ☐ use less oil, butter, lard, bacon, or salt pork in cooking.

Call your local health department for more information.

Developed by the Lead Poisoning Prevention Education and Training (PET) program funded by the New Jersey Department of Health, New Jersey Department of Human Services, the Centers for Disease Control and The MetPath Foundation. Prepared 6/92.

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Nutrition & Lead

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Why is [illegible] dangerous?

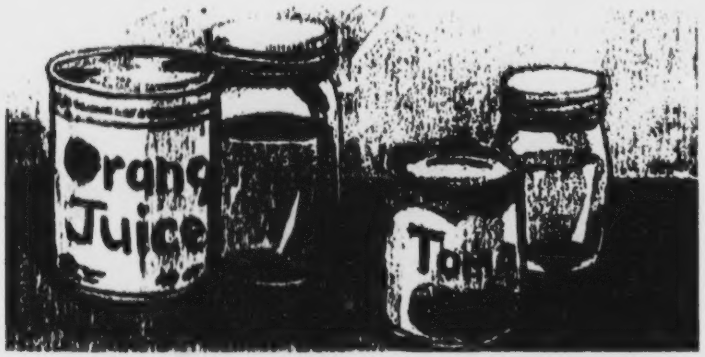
As a parent you know that children love to put things into their mouths. That includes their hands and just about anything else. This is one of the ways that they find out about their world. But sometimes this can result in health problems including lead poisoning. Hands carry lead dust into the mouth. Children also can pick up and eat broken paint chips, which taste sweet. Your child can get lead from lead contaminated soil, dust, water, and ink on newsprint or packages. Lead also can be in some jewelry, cosmetics, or painted toys.

What is lead poisoning?
Lead poisoning happens when the body contains too much lead. Even small amounts of lead can cause serious health problems or developmental delays to a small child. High amounts of lead can result in mental retardation.

This brochure will tell you about lead in food and how some foods can help protect your child from lead.

Your child can absorb lead from some foods including:

- foods high in acidic content like fruit, fruit juices, tomatoes and pickled items left in opened lead-soldered cans,
- acidic foods like coffee or juice from poorly lead-glazed ceramic dishes, cups and pots,
- acidic drinks like fruit juice stored in leaded glass, and
- leafy or root vegetables grown in lead contaminated soil.



Important: transfer food from opened canned goods into glass or plastic containers after opening.

Remember!

Because a child might not look sick, it's important that every child between ages six months to six years should be tested for lead each year with a lead test. Ask your physician or local health department about lead tests.

Diet can help protect a child from lead poisoning.

Eating properly can also help protect a child against lead poisoning. Follow these tips to help protect your child.

- Make sure your children eat at least 3 meals a day. A child's stomach will absorb more lead when it is empty.

- Give your children foods rich in iron, which helps protect their bodies against lead. Iron-rich foods include:
  - ☐ fish such as sardines, tuna,
  - ☐ oysters, clams, mussels,
  - ☐ eggs,
  - ☐ lean meats and chicken,
  - ☐ beans (dried black, red),
  - ☐ dried fruits (raisins, dates, and prunes),
  - ☐ wheat germ, and
  - ☐ greens (collards, kale, spinach, and beet greens).

TITLE: ***Let's Get the Lead Out Poster***

DESCRIPTION: A 11" by 17" poster showing a cut away of a house, a car, factory, and foundation of the house. It depicts potential sources of lead in each room of the house, in the exhaust of the car and factory emissions, and in the soil surrounding the home.

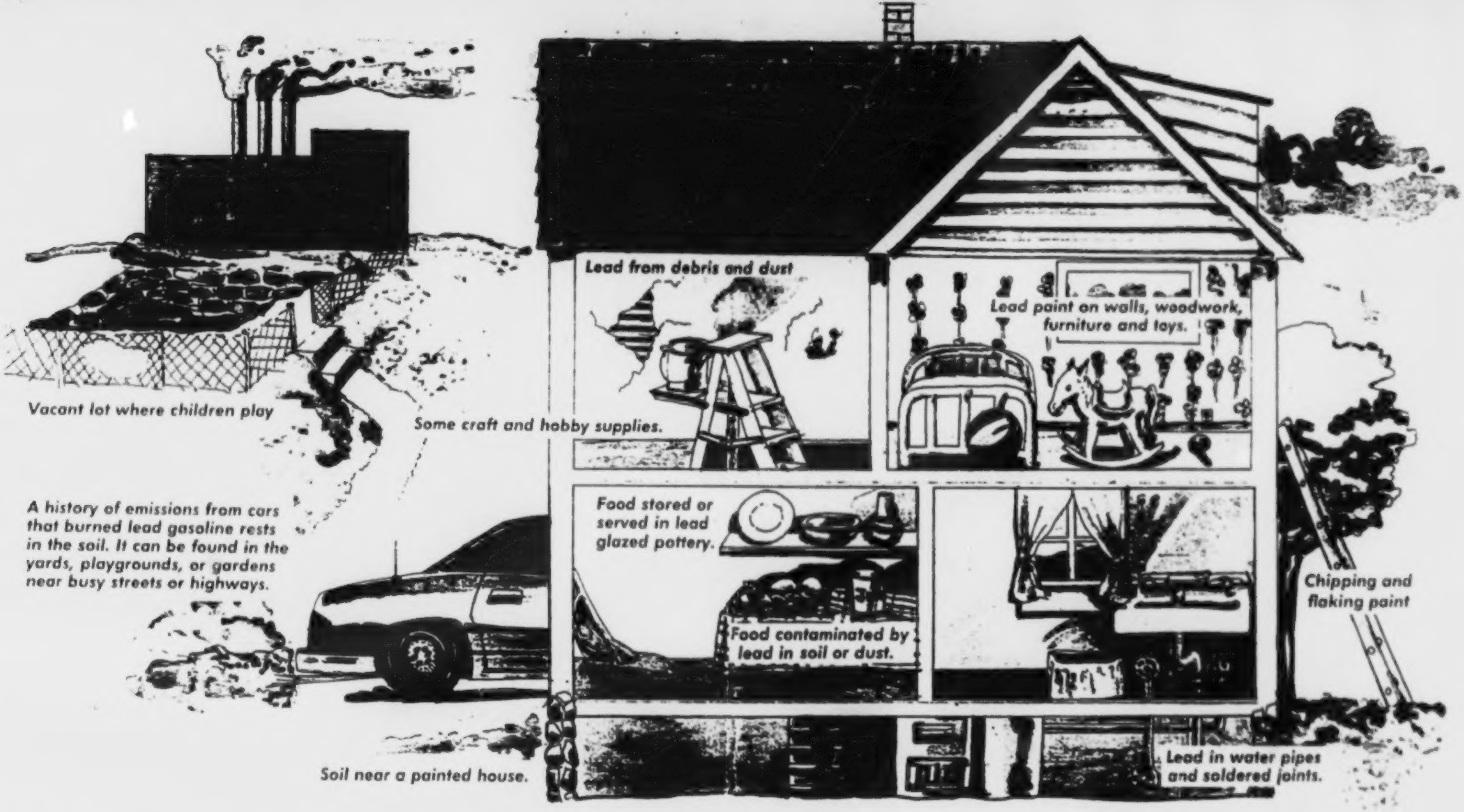
INTENDED AUDIENCE: parents and lay public.

LIMITATION OF THE MATERIAL: Booklets giving more detailed information should be available from the local health departments. [NOTE: An expanded booklet is being developed at UMDNJ-SOM, in conjunction with Baltimore Jobs and Energy and NJDCA and with review by NJDOH.]

AGENCY: The material is available from the
Lead Poisoning Prevention Education and Training Program,
301 South Central Plaza-Laurel Road, Suite 1600
Stratford, New Jersey 08084

CONTACT: Joan Cook Luckhardt
908-329-3429 or 609-782-6034

COST: None at present, but quantities are limited.


Lead from debris and dust
Lead paint on walls, woodwork, furniture and toys.
Vacant lot where children play
Some craft and hobby supplies.
A history of emissions from cars that burned lead gasoline rests in the soil. It can be found in the yards, playgrounds, or gardens near busy streets or highways.
Food stored or served in lead glazed pottery.
Food contaminated by lead in soil or dust.
Chipping and flaking paint
Soil near a painted house.
Lead in water pipes and soldered joints.

LET'S GET THE LEAD OUT!

Over 1500 children were lead poisoned in New Jersey in 1990. It is a silent thief of your children's future. A child may not look sick. Early signs of lead poisoning are easily mistaken for a cold, fatigue, or behavioral problems.
But the only way to tell if your child is sick is to get a lead test yearly. Check your environment and get the lead out!

Things to do:

- **Get a blood test for lead**
- **Know the sources for lead**
- **Damp mop and damp dust often**
- **Provide well-balanced meals high in calcium and iron Low in fat**
- **Wash children's hands often**

For further information contact your local Health Department

Newark-733-LEAD
East Orange-266-5489
Irvington-399-6641

Developed by the Lead Poison Prevention, Education, and Training (PET) program funded by DOH, DHS with (OPMRDD) and CENTERS FOR DISEASE CONTROL.
1991

BEST COPY AVAILABLE

TITLE: ***DOOR HANGER***

DESCRIPTION: When health aides or nurses visit a home to talk with a family about lead poisoning, they may find no one at home. This is a bi-lingual door hanger that explains the dangers of lead, some tips for parents to reduce exposure and where the parents can screen their children.

INTENDED AUDIENCE: parents and lay public.

LIMITATION OF THE MATERIAL: Limited space limits the amount of information that can be presented.

AGENCY: The material is available from
The Middlesex County Department of Health
Childhood Lead Poisoning Prevention Program
Helmetta, New Jersey

CONTACT: 908-521-1402

COST: none, but quantities are limited

STOP LEAD POISONING

Sorry we missed you. . . .

Nurses from the Middlesex County Health Department were in your neighborhood today to check children aged 1-5 years old for lead poisoning.

Usually, there are no signs and symptoms of lead poisoning.

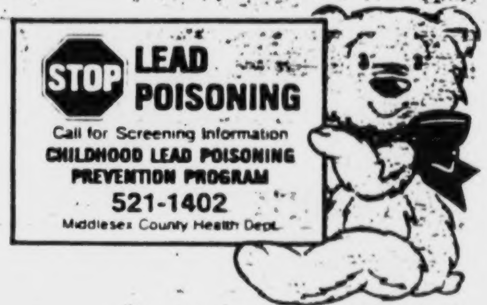
The only way to tell if children have too much lead in their bodies is to do a blood test.

This blood test is very quick and simple–the child's finger is pricked and a small blood sample is taken.

The Middlesex County Health Department will do this blood test for **free.**

To make an appointment, please call 521-1402

For information about how to protect young children from lead poisoning, please see other side.


STOP
LEAD POISONING
Call for Screening Information
CHILDHOOD LEAD POISONING PREVENTION PROGRAM
521-1402
Middlesex County Health Dept.

PARE EL ENVENENAMIENTO CON PLOMO

Sentimos mucho no haberlo encontrado. . . .

Enfermeras del Departamento de Salud del Condado de Middlesex estuvieron en su vecindad hoy para examinar niños de 1-5 años de edad para envenenamiento de plomo.

Usualmente no hay señales o síntomas de envenenamiento de plomo.

La unica manera de saber si los niños tienen demasiado plomo en su cuerpo es de hacer un examen de sangre.

Este examen es rápido y muy sencillo–al niño se le pincha un dedo y se le coje una pequeña cantidad de sangre.

El Departamento de Salud del Condado de Middlesex hará este examen totalmente **gratis.**

Para hacer una cita favor de llamar al teléfono 521-1402.

Para mas información sobre como protejer a los niños del envenenamiento de plomo, favor de ver el otro lado de la pagina.

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BEST COPY AVAILABLE

Children who live or spend time in neighborhoods with older houses and buildings can become lead poisoned by swallowing or breathing in dust from old paint.

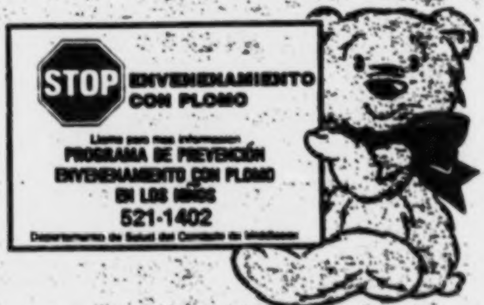
Some important ways to prevent lead poisoning are:

- Washing children's hands frequently, especially before eating
- Being sure that children eat well-balanced meals
- Not allowing children to chew on non-food items
- Removing children from the home during renovations

Please call the Health Department if you have any questions about lead poisoning.

MIDDLESEX COUNTY
HEALTH DEPARTMENT

CHILDHOOD LEAD POISONING
PREVENTION PROGRAM


STOP ENVENENAMIENTO CON PLOMO
Llame para mas informacion
PROGRAMA DE PREVENCIÓN
ENVENENAMIENTO CON PLOMO
EN LOS NIÑOS
521-1402
Departamento de Salud del Condado de Middlesex

Niños que viven o se la pasan en vecindades con casas y edificios viejos, pueden ser envenenados con plomo si se comen o respiran el polvo de pintura vieja.

Algunas maneras de prevenir envenenamiento con plomo son:

- Lavando las manos de los niños frequentemente, especialmente antes de comer
- Esten seguros que sus niños coman una dieta balanciada
- No permitan que los niños se lleven a la boca partículas de pintura
- Retirando niños de la casa cuando estan haciendo renovaciones

Por favor llame al Departamento de Salud si tiene alguna pregunta acerca de envenenamiento con plomo.

DEPARTAMENTO DE SALUD
CONDADO DE MIDDLESEX

PROGRAMA DE PREVENCIÓN DE
ENVENENAMIENTO CON PLOMO EN LOS NIÑOS

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Legal Services of New Jersey
Lead Poisoning: What It Is and What You Can Do About It
Legal Rights Handbooks

Lead Poisoning:
What It Is and What You Can Do About It

Published by
Legal Services of New Jersey

Lead in Your Body • How You Get Lead Poisoning • Precautions to Take • Workers and Lead • Testing for Lead • Treating Lead Poisoning • Removing Lead Paint Hazards • Your Rights When There is Lead in Your Home • Your Rights in HUD-Associated Housing • Taking Action: Doing Something About Lead Poisoning

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Lead Poisoning:
What It Is and What You Can Do About It

Published by
Legal Services of New Jersey

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Third Printing: May 1992

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Photo credits. Pages 4, 37: Rebecca Thorne; pages 7, 22: Barbara Freedman; pages 10, 25, 38: Margaret Stevenson; pages 13, 32, 34: Sue Perger; pages 16, 20, 29, 41, 44: Anne Prucha; pages 18, 40: Harris David.

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Introduction

Legal Services of New Jersey (LSNJ) coordinates the provision of legal assistance to low-income people throughout New Jersey. As part of its work, LSNJ tries to make people more aware of their legal rights. We believe that this will allow more people to resolve problems on their own, without the need for lawyers. In addition, people who are well-informed will be able to make better and more efficient use of lawyers.

If you need the advice of a lawyer and cannot afford one, you may be eligible for Legal Services. Contact the Legal Services program in your county. See the Resources section of this handbook on page 50 for a list of the programs.

The problem of lead poisoning is a serious one, affecting many people in New Jersey. An estimated 55 percent of low-income African-American children in urban areas have dangerous levels of lead in their bodies. Lead poisoning causes serious permanent damage.

Laws give you rights to a safe home. When you know your rights, you can seek to enforce them. Laws require owners of most housing in which children with dangerous blood lead levels live to remove the lead hazard within a short period of time. Removing lead paint is extremely dangerous. Recent state regulations describe how to remove paint properly. With information, you can help safeguard yourself and your family.

This handbook on lead poisoning is free to Legal Services clients and other low-income people. Contact LSNJ if you are interested in copies of this handbook in Spanish.

Legal Services of New Jersey
78 New Street
New Brunswick, NJ 08901-2583

Although this material is copyrighted, LSNJ encourages its use by groups and organizations when the reproduction is not for financial gain. Arrangements for distribution can be made by contacting LSNJ.

The information presented in these materials was accurate at the time of printing. However, laws change frequently. Check the current law before acting in reliance on material presented here. This handbook provides general information about the law, and is *not* a substitute for the advice of a lawyer concerning a specific legal problem. If you have such a problem, you may want to consult a lawyer in addition to reading this material.

Melville D. Miller, Jr., President
Legal Services of New Jersey
May 1992

Lead In Your Body

■ *What is lead poisoning?*

Lead poisoning is the presence of too much lead in the body. The body has no use for any lead at all. Exposure to even low levels of lead adds up over time: more and more lead gets absorbed in the body. In general, the more lead, the more harm is done.

■ *What is the harm of having lead in your body?*

Lead poisoning affects people's minds and bodies. Children and unborn babies are especially at risk from lead poisoning since their bodies and nervous systems are still growing.

Lead poisoning can reduce children's intelligence. Studies show that children with even low levels of lead in their blood have lower IQs than similar children without lead. Higher levels of lead can cause mental retardation.

Children who are lead poisoned are more likely to have behavior and discipline problems. They are more likely to drop out of school.

Lead also harms children's physical growth. Lead-poisoned children have reduced hand strength, and are less coordinated and slower to react than children who are not poisoned. In serious cases, lead poisoning causes lack of muscle control, vomiting, convulsions, coma, and even death.

■ *Where does lead go in the body?*

Lead enters the blood and circulates throughout the body. The brain, bones, kidneys, and other organs absorb lead from the bloodstream. Children absorb lead more easily than adults do.

- ***Can lead poisoning be cured?***

Some of the effects of lead poisoning cannot be cured. But once you find out that you or your child has lead poisoning, you can take steps to remove the lead and prevent future poisoning. This handbook describes some things you can do.

- ***I feel fine, and my kids don't seem sick either. So I don't have to worry about lead, right?***

Wrong. Lead poisoning may not show up like a rash or a sore throat. You can have lead in your body and not know it. Lead can hurt you without making you feel or look sick.

When symptoms do appear, they often are similar to common childhood complaints such as headaches, irritability, tiredness, lack of appetite, and stomachaches. Other symptoms are poor attention span, poor memory, and sleep problems. Because many other things can cause these same problems, parents and doctors may not think of lead poisoning.

But in children, once symptoms caused by lead poisoning appear, brain damage may already have occurred.

What about adults?

Adults with lead poisoning may have the same symptoms as children. Fertility problems and miscarriages are more likely to occur. Low level lead exposure has been linked to high blood pressure in adult men.

I'm pregnant. Do I need to worry about being exposed to lead?

Yes. Lead in your blood goes to the developing child. Lead stored in your bones also can harm your developing child. Bad effects of lead during pregnancy have been found in babies even a year after they are born.

How many people in New Jersey really get lead poisoning these days?

Too many. Children in New Jersey's cities are affected the most. The Environmental Defense Fund estimates the following percent of children under age 6 are at risk for the bad effects of lead:

Newark	30 percent
Jersey City	29 percent
Paterson–Clifton–Passaic	25 percent
Trenton	24.5 percent

These figures are only estimates of how many children have blood lead levels of 15 or more micrograms per deciliter of blood. Page 22 explains more about the numbers. What's important is that these dangerous levels of lead can cause *permanent* damage.

Adults are affected too, but we don't have city-by-city estimates of the number who are poisoned.

How You Get Lead Poisoning

- ***How does a person get lead poisoning?***

A person can be poisoned by eating lead or breathing lead dust. Until 1977, lead was used in house paints. In older buildings, there is usually a lot of lead paint. Peeling or cracking paint in older houses and apartments can be dangerous. Some children like the taste of paint chips, and chew on window sills and paint chips that fall on the floor.

But you can also get poisoned just by breathing air with lead dust in it. Scraping paint off walls or vacuuming up paint chips from floors can spread lead dust around the house. Lead dust can get on children's hands, pacifiers, and toys. When children put things into their mouths, they can swallow lead dust and poison themselves. Even stepping on paint chips or opening and closing windows that have chipped paint on them can send dangerous levels of lead into the air.

- ***I heard that lead was in dirt too.***

That's right. Lead can be present in dirt. Children should not eat soil. The dirt near highways and busy streets often has a lot of lead in it from gasoline. Even though lead in gas was banned in 1976, the lead that settled in dirt near roads does not go away.

Also, outside paint from houses or porches comes off into the dirt. For many years, outside paint was designed to lose some of the surface paint through weathering in order to keep the surface looking new. The lead washed off in this

process built up in the soil around the house. Children can get poisoned from playing in this lead-filled dirt. It is also dangerous for children to play on empty lots where houses with lead paint have been torn down, since the dirt there is full of lead. Once lead is in dirt, it stays there until it is removed.

■ *Is lead in water?*

Lead is present in some water pipes and solder used in plumbing. (Solder is used to connect pipes together.) In buildings built before 1930, water pipes were often made of

620

lead. You can tell if your pipes are lead by the color: lead is dull gray, not bright silver. It scratches easily with a house key. If a magnet sticks to your silver or grey pipes, that means they are *not* made out of lead. In buildings built between 1930 and the mid-1980s, builders often used copper pipes but joined them with lead solder. Lead solder in drinking systems was banned in 1986, but many pipes still have it in them.

Some food cans have lead solder. So does the colored ink in some food wrappers. Colored newsprint and car batteries contain lead. Some toys from other countries are painted with lead paint.

Some American brands of temporary hair colorings contain lead acetate. Foreign eyeliners often contain lead. Women from Middle Eastern cultures sometimes paint eyeliner called "kohl" or "galena" around the eyes of their baby girls, without knowing that they are poisoning them.

Pottery and cookware from other countries may have glazes with high levels of lead. Limits for lead in dishes were set in the United States less than 20 years ago, so many old American ceramic dishes have lead in them, too.

Curtain weights, fishing sinkers, and wine bottle caps are often made out of lead. Also, some home or folk remedies to treat illness use lead.

Precautions to Take

- ***My landlord is never going to replace all the plumbing in my house. Is there anything I can do about lead in the pipes?***

Yes. Use cold water for cooking and drinking. Hot water carries more lead in it than cold water does. It's also a good idea to let the water run before drinking it or using it for cooking. Especially the first thing in the morning, or anytime water has been standing in the pipes, turn on the faucet and let it run three minutes before using it. That way lead from the solder can be flushed out. Fill a pitcher with clean water to use during the day.

You can call the Safe Drinking Water Hotline at 1-800-426-4791. The government's Environmental Protection Agency (EPA) provides information on this Hotline. You can also request a copy of EPA's book *Lead and Your Drinking Water* and fact sheets about lead. There is no charge for the call or the information.

You can investigate water treatment devices. *Consumer Reports* liked the $115 Omni Total device it tested. The article in *Consumer Reports*' January 1990 issue lists water testing services and warns against expensive, unnecessary devices. The article should be available at your public library.

You may want to test your drinking water with a do-it-yourself kit. You can also send a water sample to a laboratory for testing. [Find a laboratory that is *certified* to test drinking water for lead. Call (609) 292-3950 for a list of state-certified laboratories.]

You can also call your water company or local health authorities if you think there is lead in your pipes. Ask them to come and test the plumbing. If there is too much lead in your water, the health department can order your landlord to correct the problem.

BEANO
THE BEANO BOOK
DENNIS AND MINNIE WERE HERE

■ *What about colored newsprint, food cans and wrappers, cosmetics, dishes, and home remedies?*

Keep things that have lead in them away from your children. Have children wash their hands after they have touched comics or comic books (colored newsprint). Children should always wash their hands before eating food.

After you open a food can, take the food out of the can right away. If there is food left over, store it in another container. When food sits in a can with lead solder, the lead can soak into the food. When you eat the food, you eat lead.

Do not reuse food wrappers such as bread bags. The colored ink may contain dangerous levels of lead. Wipe off the tops of wine bottles before pouring from them: most wine bottle caps are made of lead.

Buy only those cosmetics that list the ingredients, and make sure none of the ingredients is lead. The federal government doesn't require cosmetics manufacturers to list ingredients, so you may have to look for products that do list them. Don't use foreign eyeliner or face paint.

Test any foreign or old American ceramic dishes for lead. Addresses for some lead testing kits are listed on page 15. Hardware stores may also carry some testing kits.

Make sure you know exactly what is in a home remedy before taking it. Sometimes lead is called other names. "Galena," "azarcon," "greta," and "pay-loo-ah" are all really lead. Taking lead, even a little bit, is *always* harmful. It can never make you feel better.

■ ***How do I know if things in my home have lead in them?***

You can test your plates and cups, paint, water, and other things in your home for lead by buying a home lead-testing kit. The kits tell if the thing you test contains lead, but they do not tell you how much lead. Also, the kits may not be sensitive to low levels of lead, so some dishes that test negative (as not having lead) might not be completely safe.

Some sample kits we have heard of are listed below. (We have not tried any of them, and therefore do not necessarily recommend any of them.)

- **LeadCheck Swabs**
  Available from HybriVet Systems, Inc.
  P.O. Box 1210
  Framingham, MA 01701
  1-800-262-LEAD
  Cost: $13.45 for 4 test swabs; 8 for $17; 16 for $28.45

  According to the manufacturer, LeadCheck Swabs can detect lead in ceramics at current government limits. Also detects lead in paints, metals, dust, solder, and soil.

- **Frandon Lead Alert Kit**
  Available from Frandon Enterprises, Inc.
  P.O. Box 300321
  Seattle, WA 98103
  1-800- 359-9000
  Cost: $29.95 for 60 tests, plus $3.50 postage & handling

  Tests ceramics, toys, metalware, soldered cans, and other household items.

  Note: *Consumer Reports* has rated the Frandon Lead in Water Kit as "Not Acceptable." *Consumer Reports* found test results were not clear, and one of the ingredients was too short-lived. (See July 1991 *Consumer Reports*, page 454.)

According to *Consumer Reports* tests, LeadCheck Swabs were slightly more sensitive to lead than the Frandon Lead Alert Kit. Both of these kits could detect *high* lead levels in paint samples, ceramics, and cans with lead solder. Neither could detect lower levels, especially in paint. (See June 1990 *Consumer Reports*, page 378.)

■ ***My neighbor said that what your kids eat can make a difference with lead.***

That's right. What you eat affects how much lead your body absorbs. You want to absorb as little lead as possible. Foods with iron and calcium keep the body from absorbing

more lead. Meats, fish, beans, eggs, and green vegetables have iron. Milk and cheese have calcium. These foods help in fighting lead.

Try not to eat too many fatty, greasy foods since they let the body absorb more lead. Also, children should eat three to four times a day. Empty stomachs absorb more lead.

The chart at the end of this handbook lists some things you can do to protect against lead poisoning.

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Workers and Lead

- ***The kids' father works at a battery plant where there's a lot of lead. If he wears coveralls at work, he doesn't bring lead home, right?***

Not necessarily. Lead dust can be carried on shoes, hair, skin, or any other surface. Workers who work with or near lead should protect themselves at work with protective clothing. They should wear coveralls, gloves, goggles, and shoe and head coverings. By covering themselves, they protect those they live with by not bringing dust home.

The federal government's Occupational Safety and Health Administration (OSHA) sets rules for some industries. OSHA makes most factories give workers who use lead a place to shower and change clothes before going home from work. If you can shower at work, do so.

OSHA says that workers should not bring coveralls or other protective clothing worn at work home for washing. These rules keep workers from bringing dangerous dust home on their clothes. Unfortunately, OSHA rules don't apply to all workplaces that use lead.

If the worker does bring coveralls or lead-covered clothing home to wash, he or she should vacuum the clothes at work with a HEPA filter (not regular) vacuum. ("HEPA" stands for high-efficiency particulate air filter or vacuum. Only HEPA filters or vacuums can pick up lead particles.) The worker then should put the clothing in a nylon bag at work. Don't shake the clothes out at home since any lead dust that stays on the clothing is dangerous to breathe. Wash the lead dust clothes separately from other wash. Put the clothes in the washer gently to avoid stirring up the dust. Wash the bag too. If you have your own washer, you might want to run another rinse cycle after you wash lead-covered clothes to get out any lead left over.

- ***What about the workers themselves? In what kind of jobs do people need to worry about lead?***

Some jobs are especially dangerous to workers. They are: cutting steel, welding, working at a lead smelter, manufacturing batteries, taking out lead from batteries, manufacturing cans, working at a lead or brass foundry, repairing radiators, working at gun-firing ranges, removing old paint, and demolishing and renovating old houses and other buildings. Because welding, metal cutting, and demolition work is so dangerous, construction workers need to be very careful.

Also, people who paint ships and bridges may be painting with lead paint. Although lead paint was banned (not allowed) for home use in 1977, it is still used on ships, bridges, and highway overpasses today.

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Workers exposed to lead should cover all body surfaces and use a respirator. The paper masks sold at hardware stores are *not* good enough for lead (though they are better than nothing). People working with lead should use a respirator approved by NIOSH for toxic dusts with a HEPA filter cartridge (color-coded purple).

The state agency responsible for worker safety is:

Occupational Health Service
New Jersey State Department of Health
CN 360
Trenton, NJ 08625-0360
(609) 984-1863

For more information about workplace health and safety, contact:

Workplace Health Fund
815 16th St., N.W., Suite 301
Washington, DC 20006
(202) 842-7833

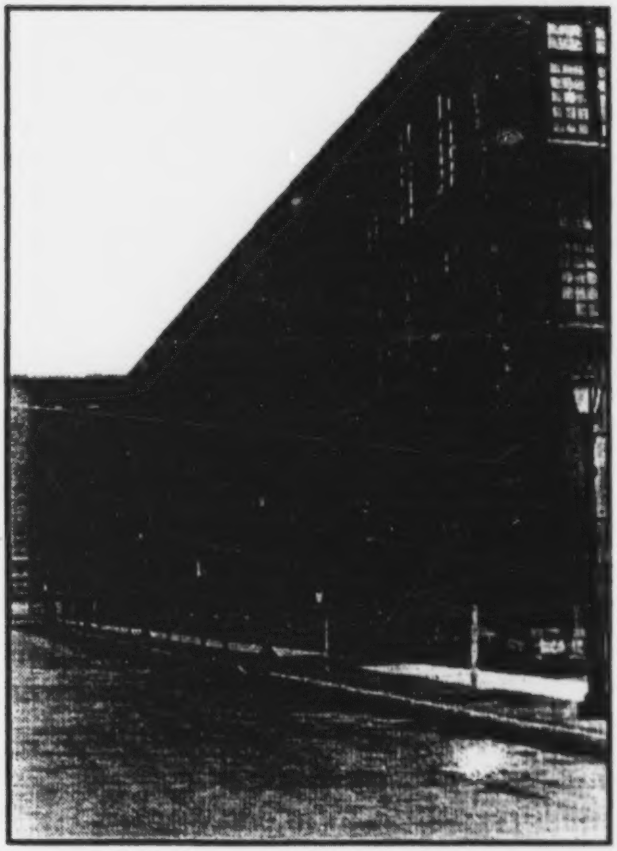
Many labor unions also have information about worker safety and protection. For legislative information and referrals to unions, you can contact:

AFL-CIO Department of Occupational
Safety and Health
815 16th Street, N.W., Suite 306
Washington, DC 20006
(202) 637-5200

The National Institute of Occupational Safety and Health (NIOSH) provides information about workplace lead hazards. NIOSH's toll-free number is 1-800-35-NIOSH (1-800-356-4674).

The federal agency responsible for enforcement of health and safety rules in the workplace is the Occupational Safety and Health Administration (OSHA). New Jersey is in Region II. The office is at:

U.S. Department of Labor
201 Varick Street, Room 670
New York, NY 10014
(212) 337-2378



■ *How can I find out if there's lead where I work?*

Employers must give the state detailed information about dangerous substances used at work. By law, this information is available to anyone asking. To find out what dangerous materials are being used at workplaces, call the Community Right to Know line at (609) 292-6714. Or you can write to:

Dept. of Environmental Protection and Energy
CN 402
401 E. State Street
Trenton, NJ 08625

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Testing for Lead

How do I find out if I am poisoned or if my children are poisoned?

The best way to find out if you or your children are poisoned is to get a blood test. State law says every child from 1 to 5 years old at high risk for lead poisoning must be tested for lead. All children under 6 should be tested so that no case of poisoning is missed. Children from ages 9 months to 36 months who live in older housing are in the most danger of lead poisoning. Adults who live near or work in places where lead is used may want to be tested too.

The federal Medicaid Act requires children to be tested for lead as part of the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program. If you are eligible for Medicaid, make sure that your child is tested for lead through the EPSDT program.

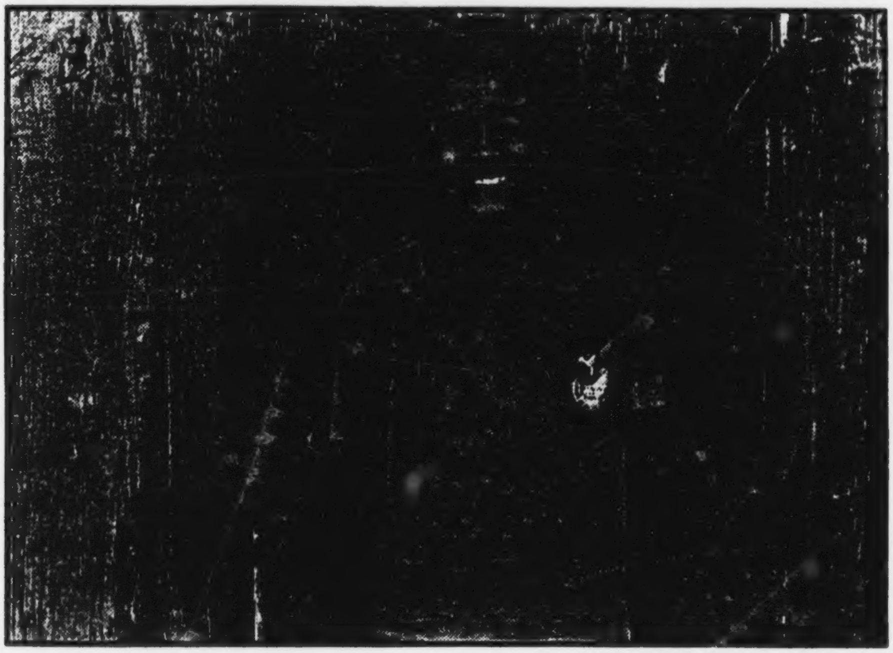
A simple finger prick usually is done first to test whether a child has lead in his or her blood. If lead is found, then blood will be taken from a vein and tested.

Where can I get tested?

A list of childhood lead poisoning prevention (screening) programs appears at page 47. Many of these programs test children for free. Call the program nearest you for more information. Hospital clinics may also test blood for lead.

What will the screening program tell me?

The screening program will send you a written report of the test results, along with information about the dangers of lead poisoning.



- ***My neighbor's son had a 26 blood lead level. What does that mean?***

Most test results show how much lead is in the blood by saying how many *micrograms* of lead are in a *deciliter* of blood (abbreviated "μg/dl"). In 1985, the federal government's Centers for Disease Control (CDC) said 25 μg/dl was dangerous for children.

In October 1991, CDC announced that the harmful effects of lead are found at lower levels than 25. CDC says that health departments should check the homes of children whose blood is 20 μg/dl or more, and order landlords to remove any lead hazards they find.

Also, when children repeatedly have blood lead levels between 15 and 19 μg/dl, CDC recommends that health departments inspect their homes and follow up, when the departments have the resources to do so. The CDC booklet, "Preventing Lead Poisoning in Young Children," explains these numbers in detail. Page 27 tells how to get a copy.

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In general, adults should not have blood levels over 20 μg/dl either. Females in their child-bearing years should be especially careful about lead, because lead from the mother's body harms the developing baby during pregnancy.

Treating Lead Poisoning

■ *How do you treat lead poisoning?*

In mild cases of poisoning, the "treatment" is just to find the source of lead (for example, paint, water, soil) and remove it so that no more lead enters the body. Some of the lead already in the body stays there. Some lead is slowly passed from the body in bowel movements and urine.

Eating foods that have iron and calcium helps to keep the body from absorbing more lead. See pages 15 and 16 describing useful foods and diet.

In serious cases of poisoning, the child or adult must receive chelation therapy. Chelation (pronounced *key-lay-shun*) drugs combine with the lead circulating in the blood and body tissues and help get the lead out through the urine. If the patient's blood lead level is very high, the chelation drugs usually have to be given in the hospital. The two most common chelation drugs (EDTA and BAL) must be given by injection. Chemet (also called DMSA), a new drug that can be given by mouth, is now available.

If your child needs chelation treatment, it is important to keep your appointments for check-ups and blood tests. Your doctor needs to watch your child closely during and *after* chelation therapy.

Chelation is not a cure for lead poisoning. Chelation helps prevent the patient from getting convulsions and coma by getting the lead out of the body quickly. But it can't undo damage that has already been done. 634

■ *After I get my children treated, how can I keep them from getting lead poisoned again?*

The most important step to take is to *find the sources of lead* that are poisoning your child and *remove them*. Check your home, day-care, or other place where your child spends time. Call your local health department for help.

Make sure that you take your child for regular *follow-up* blood tests. Frequent blood testing is the only way the doctor can tell if your child is getting better. Do not stop taking your child for checkups until the doctor tells you that your child's blood lead test has returned to a less dangerous level.

Try to make sure your child eats well. Full stomachs absorb less lead. Empty stomachs absorb more lead, making the child more sick. Foods with a lot of iron and calcium are good and help protect the body against lead. Some iron-rich and calcium-rich foods are lean meats, tuna, beans, eggs, greens, raisins, milk, and cheese. Your doctor may recommend taking an iron pill.

Find out if you are eligible for *Medicaid*. Medicaid may cover the costs of your or your child's treatment.

Removing Lead Paint Hazards

- ***My landlord won't do anything to remove the lead in my apartment.***

  If you have a child under 6 who has a blood lead level of 20 or more, then your landlord may have to fix things. Your landlord can either remove hazardous lead paint or encapsulate (cover) it with hard material like wallboard or paneling. See the section on your legal rights on page 31.

- ***I live in the projects. Does the housing authority have to do anything?***

  If your child has a blood lead level of 25 or more, the housing authority must test your apartment within five days and remove any lead paint within 14 days after it is told about your child's high blood lead level. The housing authority has to move your family while it removes the paint. See the section on public housing tenants' rights at page 39.

- ***Can I remove or cover the lead paint myself?***

  The Consumer Product Safety Commission advises homeowners not to do their own abatement. Removing lead paint is very dangerous because it produces paint chips, dust, and fumes which contain lead. Covering lead paint can also cause dangerous levels of lead dust.

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■ *How can I make sure that lead repairs are done safely?*

Learn about proper lead abatement yourself so that you can make sure the person doing the work is doing it right. Get a copy of the following materials from the state's Accident Prevention and Poison Control office at (609) 292-5666:

- "Manual for Safe Removal of Lead Paint"
- "Chapter XIII," the state regulations on lead. [The regulations are also found in Chapter 51 of Title 8 of the *New Jersey Administrative Code* (issued on September 17, 1990). The regulations describe how abatement must be done.]

You might also want to look at the recommendations made by the Department of Housing and Urban Development (HUD) in its book "Lead-Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing." The HUD Guidelines cover testing, abatement (removing or covering), clean-up, and disposal of lead-based paint. You can order the HUD Guidelines from:

HUD USER
P.O. Box 6091
Rockville, MD 20850

or call (toll-free) 1-800-245-2691 and ask for HUD USER information. Copies of the Guidelines cost $3.00 each, prepayment required. (First class shipping is $2.00 extra.)

The Centers for Disease Control also recommend certain abatement procedures and protections in "Preventing Lead Poisoning in Young Children," published in October 1991. This booklet presents technical descriptions of poisoning, treatment, and abatement. Copies are available from CDC free of charge by writing or calling:

Centers for Disease Control
CEHIC/OD/OPEL/PA
Mail Stop F-29
1600 Clifton Road, N.E.
Atlanta, GA 30333
(404) 488-4102

■ *What kinds of things do these materials say you should do?*

They recommend deleading one room at a time, and sealing that room off from the rest of the home. The floor should be covered, and all heating and air conditioning vents should be sealed off. Carpets, furniture, and personal belongings should be removed (or at least covered with plastic) so lead dust doesn't settle on them.

The regulations and materials describe what techniques and tools to use and the kind of protective clothing to wear. They cover safe personal hygiene during abatement and how to safely clean up and get rid of trash. They warn that no one should remove lead paint with children or pregnant women in the building.

Also, sanding, using a gas-fired torch, and sandblasting are against the law because they make too much dangerous dust and fumes. Workers must clean up every day using a special (HEPA) vacuum and damp mop. They must seal lead waste for proper disposal, often in a hazardous waste landfill.

If the person doing lead abatement work in your home is doing it unsafely or not following Chapter 13 regulations, call your local health department *immediately*. Tell them what is happening, and ask them to order the unsafe work stopped at once. Unsafe abatement is too dangerous to let it go on.

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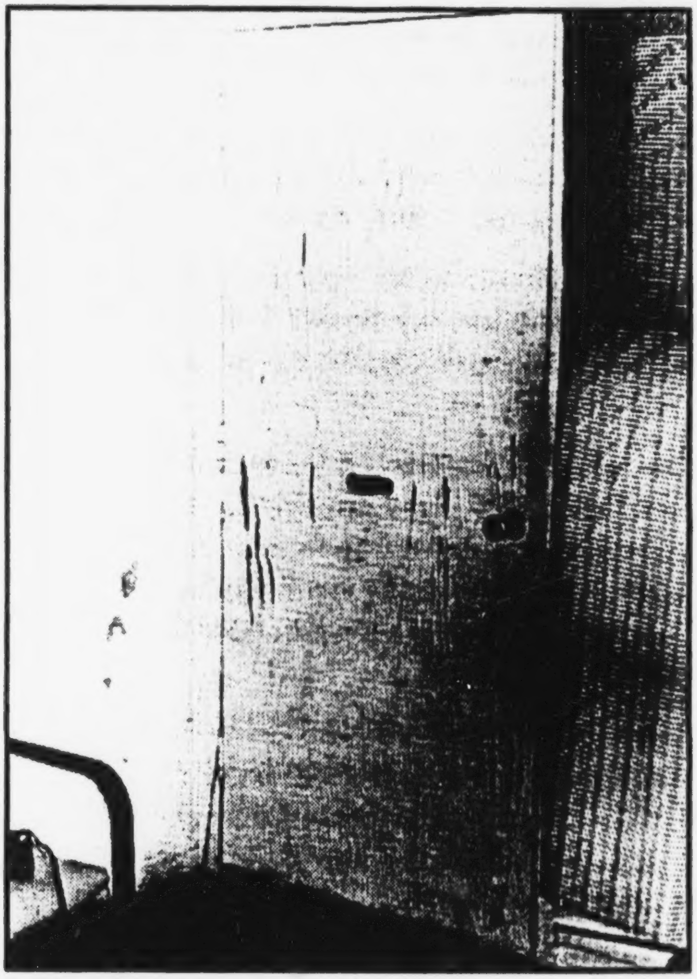

- ***I heard it's okay to remove lead paint with a heat gun as long as you keep the room clean and windows open.***

  That's wrong. Whatever way you do it, it is very dangerous to remove lead paint. Proper precautions are needed. Workers should use respirators, protective clothing, and take other safety precautions. Opening the windows is not enough.

- ***Someone told me you should replace windows and doors that have lead paint.***

  Any surface covered with lead paint that a child can chew on should be replaced. Windows and doors have chewable surfaces. Usually replacing windows and doors is cheaper than removing the lead paint on them and repainting with nonleaded paint.

- ***I own my own house, but I can't afford to remove or cover the old paint. What can I do?***

This is a big problem. Jersey City has a loan program in which residents can borrow money for lead abatement at very low interest rates, or receive it as a grant. Other cities are discussing setting up similar programs.

Some cities also are discussing training local workers to remove lead hazards from houses. Contact your lead screening program (program phone numbers and addresses are listed at page 47), your local health department, or your City Council to see if there is a program where you live that can help.

If you bought your house from HUD, or if you have an FHA mortgage, then the government should have inspected for peeling paint in housing built before 1978. If peeling paint was found, the government was supposed to have removed it. See page 39.

- ***Does the state license contractors to remove lead paint?***

New Jersey does not have a licensing program. The state co-sponsors classes on lead paint removal. For more information, call the Accident Prevention and Poison Control office at (609) 292-5666.

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Your Rights When There is Lead In Your Home

- ***What does the law say about lead paint?***

New Jersey law does not allow lead paint on toys, furniture, or dwelling surfaces—both inside and outside—which are "readily accessible" to children (places in the home that are easily reached, such as window sills, stairs, and doors). It's against the law to sell toys or furniture containing lead paint. (Federal law does not allow lead in paint either.)

The law says hazardous lead paint on inside or outside surfaces of a dwelling is a *public nuisance*.

- ***What does the local health department do? What does the state health department do?***

The local (city or county, also called "municipal") health department is responsible for investigating violations of lead paint laws. It should stop or "abate" public nuisances. It must also make sure the laws are obeyed. Local health departments report to the State Department of Health.

- ***What does the local health department do if it finds lead paint?***

If the local health department finds a child with a confirmed (definite) blood lead level of 20 micrograms per deciliter or more living in a dwelling (house or building) that contains chipping, peeling, or loose lead paint, then the health department must order the owner to correct the problem. It must notify the owner that he or she is maintaining a public nuisance. If your child's blood lead level is 40 or above, then even if the paint is not chipping, the landlord must remove or cover it within 10 days. When health departments have the resources to do so, they should inspect the home of a child under 6 who has repeated blood lead levels of 15 to 19 μg/dl. To correct the problem, the owner can cover the surface with durable (hard, strong) material or remove the lead paint and repaint with nonlead paint. Just repainting is not allowed. The health department will give tenants or occupants a copy of its notice to the owner so they know what the health department has ordered the owner to do.

Health department regulations are being revised to make clear that 20, not 25, is the level when health departments must act.

- ***Do I have to wait until my child is lead poisoned before the health department will do anything?***

No. The local health department must abate (remove) public nuisances. Hazardous lead paint in a home is a public nuisance.

Health departments may tell you they do not have to come out if your child is not lead poisoned, but that is not so. Inform them that the law says they must make sure hazardous lead paint is abated. The laws that say this are N.J.S.A. 24:14A-5 and N.J.S.A. 26:3-46.

First explain how you know you have lead paint (home test kit results, previous inspection, inspection of apartment in same building, or whatever). Then tell them why it is a hazard (paint is chipping or peeling, walls or ceilings are damaged so paint is loosened, and so forth).

Lead paint is a particular hazard for children who chew on painted surfaces, such as window sills, or who eat paint chips, dirt, or dust. If your child has been lead poisoned before, that also makes lead paint particularly hazardous.

Tell your health department all the things that make the paint dangerous for your individual family. This information will help health department inspectors and nurses know which children are in the most serious danger, and they will try to check these homes as soon as possible. Unfortunately, many local health departments do not have enough staff to check the home of every person who calls them.

■ *What if the local health department doesn't follow through in getting rid of the lead?*

If you have any complaints about your local health department, call the state health department at (609) 292-5666. The state can force the local health department to act.

Because local health departments have limited resources, they need your assistance to make sure the laws are obeyed. Be home when you say you will be. They may need your help to find your landlord.

Local health departments are trying to do a difficult job with limited resources. But it is up to you to make your local health department aware of your problems so it can

respond to your needs. Lead poisoning is a very serious matter. Despite a limited budget, your health department should act, and act quickly.

- ***Will the health department shut down the building because of lead? If it does, I have nowhere to go.***

It is unlikely that the health department would condemn an apartment just because of lead. However, when state or local authorities close a home or order the owner to repair it to enforce health, housing, or building codes, tenants are entitled to *relocation assistance.* To be eligible for relocation assistance, you must have lived in the apartment for at least 90 days. The law says you can't be displaced from your old home until you have a new home.

You may be eligible for $500 in moving expenses and start-up costs, and up to $4,000 in rental assistance payments or down payment assistance, depending on the rent or cost of your new home. Homeowners also may be entitled to relocation assistance. Relocation assistance is also available when you must leave your home because the owner is rehabilitating (fixing) it by government order or with government money. Temporary replacement housing may be provided.

Contact your town's relocation assistance officer. The housing or welfare department should tell you who that is. If not, call the state Department of Community Affairs Office of Landlord/Tenant Relations at (609) 292-6417. This office oversees the relocation assistance program.

- ***I'm afraid if I complain about lead paint, my landlord will kick me out. What can I do?***

Your landlord might try to give you a hard time if you stand up for your rights to a safe home. But a landlord can't kick you out just because you got the health department there to inspect. The law says:

> No person found to be in violation of the law shall evict, or cause to be evicted, occupants for the purpose of avoiding corrective maintenance ordered by the local board of health to eliminate hazardous lead exposure. N.J.S.A. 24:14A-8.1.

- ***Can I hold back my rent until the landlord fixes the lead paint?***

Holding back your rent and putting it in a special account may be a possibility. However, you should talk to a lawyer before you do so, since you risk being evicted. You may be eligible for free legal services if you have limited income. (See the list of Legal Services offices on page 50 of this handbook.) Otherwise, you should see a private lawyer.

- ***My landlord said he's not going to remove the paint even though the health department ordered him to remove it.***

If the owner doesn't remove or cover the paint when he's ordered to, the health department can make the repairs and send the bill to the owner. If the owner doesn't pay the health department, it can take him to court and put a lien on the property.

If the owner doesn't know what he's doing in making repairs, or does a sloppy job, he could end up filling the apartment with lead dust, making it a very dangerous place to live. If the landlord does the repairs in a messy way, call the health department *immediately* and tell them what is happening. The health department should make him stop the unsafe work, and order him to abate properly.

You can also contact your local Legal Services office, your local lead screening program, your legislative representatives, or other community advocacy groups.

■ *If my child has a blood lead level of 20 or more, does the owner of the motel where we are living now have to get rid of the lead or cover it up?*

Although the law doesn't say anything about motels, it covers "any building or structure" used as a residence, including "any dwelling unit, rooming house or rooming unit, and any facility occupied or used by children." N.J.S.A. 24:14A-4.d. So if you live in a motel, the owner must remove or cover lead paint if your child is under 6 and has a blood lead level of 20 or more.

■ *Can a landlord refuse to rent to me because I have kids and he's afraid they'll get lead poisoned?*

No. It is against the law for a landlord or rental agency to refuse to rent to you, or to try to evict you, because you are pregnant or you have children under 18. The only exception is for senior citizen housing or retirement communities.

If you feel you have been discriminated against because your family has children, you can write or call:

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U.S. Department of Housing and
Urban Development (HUD)
Office of Fair Housing and Equal Opportunity
26 Federal Plaza, Room 3532
New York, NY 10278
(212) 264-5072

You can also sue the landlord or agency you believe discriminated against you in court. Call your local Fair Housing Council or Legal Services office for more information.

- ***I know it's not safe to stay in the apartment while the lead paint is being removed, but I don't have anywhere else to go.***

According to state regulations, children under 12 and pregnant women may not be in the apartment while the lead is being removed. The town's relocation assistance officer can tell you whether temporary housing is available in your town. (As of the date of publication of this handbook, no town provides temporary housing during lead removal.)

- ***Can I sue if it turns out my child is seriously harmed by lead?***

If you or your child is seriously harmed by lead, then you may be able to sue those that caused the harm. Many lawyers will handle lead cases without charge: they will take a part of the damage award, if any, as payment. Legal Services lawyers do not handle these types of cases. *Caution:* You may have a limited time to sue. Adults generally have two years from the time they learn of their injury and its cause to sue. There are exceptions for children, who generally have two years from the time they turn 18 to file their case. However, when you have claims against a public entity (such as a city or public school, for example), you must file a claim within 90 days of the injury, although there may be limited exceptions. If you do not meet the time limits, *you may lose the right to sue.* So, if you are thinking of suing, begin to interview lawyers now.

Your Rights in HUD-Associated Housing

- ***I live in the projects. Does the housing authority have to take care of the lead paint problem?***

Yes. In 1988, Congress toughened the law requiring the Department of Housing and Urban Development (HUD) to prevent lead poisoning. In the past, HUD has not protected tenants enough from the dangers of lead. Now HUD must make sure housing authorities test for and abate (remove or cover with hard material) hazardous lead paint in family projects. (Projects that are only for the elderly are not covered by lead paint regulations.) After the housing authority has abated the apartment, it must reinspect to make sure the lead is gone.

If your child has a blood lead level of 25 or more and you live in a project, then the housing authority must test your apartment for lead within five days after it learns of your child's high blood lead level. If it finds lead, the housing authority must treat those surfaces where lead is found or move your family to another apartment that doesn't have lead within 14 days.

The housing authority can treat the surfaces by either removing the lead paint and repainting, or by covering the surface with hard material. Repainting without removing the lead paint is *not* allowed.

Often the housing authority must move you to another apartment while it does removal work in your apartment. When "debris, fumes, or dust are going to be created" during lead paint removal, which almost always happens,

the housing authority must move tenants with children under 7 years old and pregnant women.

If you moved into a family project after July 1988 and the project was built before 1978, then your unit should have been tested and deleaded if necessary before you moved in. Ask the housing authority for a copy of the test results on your apartment. They should be less than 1 $\mu g/cm^2$. If there is more than 1 $\mu g/cm^2$ of lead, the housing authority should have removed or covered the lead paint. Even if you didn't just move into a project, if it was built before 1978, the housing authority should have given you a notice about lead paint hazards that might exist in your project. If you didn't get one, ask for one.

If your project is being modernized, then the housing authority should test for lead. If the results are above 1 $\mu g/cm^2$, then the housing authority must abate (remove or cover) the lead while it modernizes the project.

Housing authorities should begin a lot of testing and lead paint removal soon, if they haven't already. You might want to get a copy of HUD's Guidelines on lead paint so

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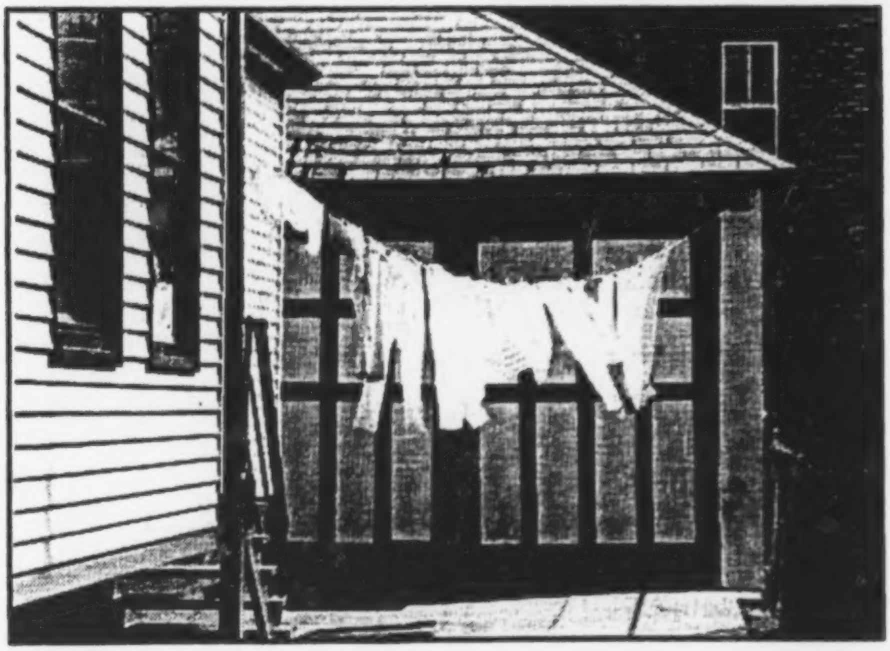
you know what the housing authority is or should be doing. See page 27 for how to order them.

- ***I have a Section 8 apartment. I pay part of my rent, and the Housing Authority pays my landlord the rest. Does my landlord have to do anything about lead?***

Yes, if your home was built before 1978. If you have a Section 8 certificate or voucher, then during your first and periodic inspections, the inspector must look for chipping, peeling, or loose paint. If such paint is found, it must be removed or covered *within 30 days*. (Each type of HUD-associated housing has different rules that apply. In the projects, lead hazards must be abated within 14 days; in Section 8 apartments, within 30 days.)

If you have a child under 6 in a Section 8 apartment who has a blood lead level of 25 μg/ml or more, then the apartment must be tested for lead. If there is lead paint on chewable surfaces, the owner must remove or cover the paint on *all* chewable surfaces up to five feet high. (The housing



authority can order the owner to do the repairs and skip the testing step *if* it chooses.)

If your child is lead poisoned and your family moves to a new apartment, then the new apartment must be tested for lead. Any lead paint on chewable surfaces must be removed or covered with hard material before your family moves in.

- ***I have a FHA mortgage on my house. My neighbor bought his house from HUD. Are there any rules about lead for either of our houses?***

If they were built before 1978, then certain rules apply. Pre-1978 houses should have been inspected for peeling paint before HUD approved the mortgage or sale. If there was peeling paint, then it should have been removed or covered with hard material. Check your documents and papers to see if they refer to an inspection for peeling paint or lead. If you can't find anything, call or write HUD's Regional Office at the address on page 37 (contact the FHA office instead of the Fair Housing office). Ask for information about whether an inspection for peeling paint or lead was done, and if so, what was found.

If you have a child under 7 with a blood lead level of 25 or more, then your home will be tested and abated if lead is found. You may be able to sue the government if your home was supposed to be inspected but wasn't, and your child got lead poisoning from it. If this happens, see a lawyer for advice.

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Taking Action: Doing Something About Lead Poisoning

- ***I feel like a bad parent making my children sick. I don't even like to think about it.***

Don't blame yourself. It's not your fault. Lead poisoning is easy to miss. Once you accept that lead poisoning is not your fault, then you can act.

Get your children tested. If they have blood lead levels higher than 10 micrograms per deciliter, take further action. Talk to your lead poisoning prevention program (see the list on pages 47 to 49) or to your local health department.

Tear out "Things You Can Do To Prevent Lead Poisoning" from the back of this handbook and put it on your refrigerator, or in a place where you can see it every day. Try to follow the suggestions there.

- ***All this information is so overwhelming. I don't know what to do!***

There is a lot to know about lead. But don't feel overwhelmed by the information. It's here for you to know about so that you can decide what to do. Take it all a step at a time. Start with getting your children tested. When you get the test results, you'll know whether you have to take further action right away.

■ *What else can I do to help stop lead poisoning in my neighborhood?*

Get together with your neighbors. Decide what to do. Talk to your local screening program and to your doctor. Maybe you can set up a blood screening drive to get people tested in your neighborhood or project. Contact the local and state health departments. Maybe you can get the local health department to inspect a number of houses or apartments in your neighborhood at once. Find out who is in charge of housing in your town. Set up a meeting with that person about lead, or bring up the problem at a town meeting.

Talk to your church or temple. Maybe you can set up a "safe house" for families to stay at while lead removal is done at their apartment or house. Call your local Legal Services office. Call your local Head Start group. Reach out to the legislators and public officials at the local, county, and national levels who are there to serve you.

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Come up with other ideas. But don't wait, because the tragedy of lead is that the harm to you and your children can't be undone. By acting now, you can prevent future harm.

- ***If I want to get a group of neighbors together, are there some materials I can use so we can learn more about lead?***

The New Jersey Anti-Lead Poisoning Coalition and Concerned Parents for Head Start have put out a Community Discussion Package. It contains a videotape on lead, articles, a section on organizing a community group about lead, and a rap song on tape. To get a copy, contact Joan Cook Luckhardt, Ph.D., at (609) 777-0520.

You might also want to get a copy of "The Legacy of Lead: America's Continuing Epidemic of Childhood Lead Poisoning," published in March 1990 by the Environmental Defense Fund in Washington, DC. This booklet describes lead poisoning and proposes putting a tax on lead to pay for lead clean-up. Copies are available for $8.00 ($2.00 to low-income persons) by contacting:

Environmental Defense Fund
1616 P Street, N.W., Suite 150
Washington, DC 20036
(202) 387-3500

You also might want to get copies of the other publications listed in this handbook.

- ***How do I look up the laws on lead poisoning?***

Every county courthouse has a law library that you can use. State laws (called "statutes") on lead paint are in *New Jersey Statutes Annotated* (N.J.S.A.), a set of green books. Look in volume 24, chapter 14A (located in the pocket part in the back of the book), and volume 26, chapter 26:2-129.

State regulations are rules passed by the New Jersey Department of Health. Regulations are in blue loose-leaf notebooks called *New Jersey Administrative Code* (N.J.A.C.). Lead paint regulations are in Title 8 at chapters 51 and 52.

Some cities have lead paint ordinances (city-wide laws). These ordinances may or may not be in the Law Library. Newark and Paterson have ordinances; Jersey City and Trenton are considering making ones. Call your City Council and ask for a copy of your city's ordinance if it has one.

The federal (national) government also has laws (statutes) limiting use of lead paint. They are in dark red books called *United States Code Annotated* (U.S.C.A.). Look at volume 42, sections 4821 to 4846 (the 1988 law, section 4822, is in the pocket part at the back of the book).

Federal regulations about lead paint poisoning are in volume 24 of *Code of Federal Regulations* (C.F.R.), a set of paperback volumes that vary in color each year. Regulations governing lead paint in public housing generally are in volume 24, section 35. Specific types of HUD-associated housing are covered in sections 965.701 (projects), 200.800 (FHA mortgage insurance and property disposition), 882.109(i) (section 8 existing housing), 886.113(i) (section 8 special allocations), 887.251(i) (section 8 housing voucher program), 570.608 (Community Development Block Grants), 511.11(f) (Rental Rehabilitation Grant Program), and 968.4(h),(i) (Comprehensive Improvement Assistance Program). Regulations banning lead in paint and other products are in volume 16, section 1303.

If you need help finding these books, ask the law librarian.

Resources

Lead Poisoning Prevention (Screening) Programs

State Agency
New Jersey State Department of Health
Accident Prevention and Poison Control
363 West State Street
CN 364
Trenton, NJ 08625-0360
(609) 292-5666

Local Childhood Lead Poisoning Prevention Programs
Camden Health Department
Camden Accident Prevention and Poison
Control Program 1800 Pavilion
2101 Ferry Avenue
Camden, NJ 08104
(609) 757-8603
Larry Mosely, Coordinator

East Orange Health Department
Lead-Based Paint Poisoning Control Program
143 New Street
East Orange, NJ 07017
(201) 266-5489
Barbara Scott, R.N., Coordinator

Elizabeth General Medical Center
Childhood Lead Poisoning Control Program
925 East Jersey Street
Elizabeth, NJ 07201
(201) 289-8600, ext. 2300
Barbara Parker, Coordinator

Middlesex County Health Department
Lead Poisoning Control Program
60 Main Street
Helmetta, NJ 08828
(201) 521-1402
Roberta Bamrick, R.N., Coordinator

Jersey City Family Health Center
Lead Poisoning Prevention Program
201 Cornelison Avenue
Jersey City, NJ 07304
(201) 547-4567
Madeline Brown, R.N., Coordinator

Long Branch Department of Health
Monmouth/Ocean Counties Lead Poisoning
Prevention Program
344 Broadway
Long Branch, NJ 07740
(201) 571-5660
Jeryl Krautle, R.N., Coordinator

Burlington County Health Department
Lead Poisoning Control Program
P.O. Box 287
Mount Holly, NJ 08060
(609) 267-1950 or 265-5538
Harriet Steuart, R.N., Coordinator

Newark Lead Poisoning Prevention and Control Program
110 William Street
Newark, NJ 07102
(201) 733-7547
Charlene W. Mason, M.S.W., Coordinator

Paterson Division of Health
Childhood Lead Poisoning Control Program
176 Broadway
Paterson, NJ 07505
(201) 881-6919
Marjorie Pacheco, R.N., Coordinator

Plainfield Division of Health
Lead Poisoning Control Program
City Hall Annex
510 Watchung Avenue
Plainfield, NJ 07060
(201) 753-3579
Imelda Chukwu, Coordinator

Division of Health
Lead Screening Program
City Hall Annex
319 East State Street
Trenton, NJ 08608
(609) 989-3204
Sharon Winn, R.N., Coordinator

Vineland Community Nursing Service
Childhood Lead Poisoning Prevention Program
111 North Sixth Street
Vineland, NJ 08360
(609) 794-4000
Laurie Bates, R.N., Coordinator

Gloucester County Health Department
Lead Poisoning Control Program
Carpenter Street and Allens Lane
Woodbury, NJ 08086
(609) 853-3437
Delle Zelinsky, R.N., Coordinator

If you live in an area not covered by the programs above, call your local or state health department for information.

Legal Services Offices

State Coordinating Program

Legal Services of New Jersey
78 New Street, 3rd Floor Front
New Brunswick, New Jersey 08901-2583
(908) 246-0770
TDD: (903) 214-0828

Local Legal Services Programs

Bergen County Legal Services
47 Essex Street
Hackensack, NJ 07601
(201) 487-2166

Camden Regional Legal Services
P.O. Box 95002
530 Cooper Street
Camden, NJ 08101-5002
(609) 964-2010

Cape-Atlantic Legal Services
One So. South Carolina Avenue
Atlantic City, NJ 08401
(609) 348-4200

Essex-Newark Legal Services
106 Halsey Street
Newark, NJ 07102
(201) 624-4500

Hudson County Legal Services
574 Newark Avenue
Jersey City, NJ 07306
(201) 792-6363

Hunterdon County Legal Service
123 Main Street
Flemington, NJ 08822
(908) 782-7979

Legal Aid Society of Mercer County
16-18 West Lafayette Street
Trenton, NJ 08608
(609) 695-6249

Middlesex County Legal Services
78 New Street, 3rd Floor Rear
New Brunswick, NJ 08901
(908) 249-7600

Legal Aid Society of Morris County
Hall of Records
Court Street
CN-900
Morristown, NJ 07960
(201) 285-6911

Ocean-Monmouth Legal Services
73 Broad Street
Red Bank, NJ 07701
(908) 747-7400

Passaic County Legal Aid Society
140 Market Street
Paterson, NJ 07505
(201) 345-7171

Somerset-Sussex Legal Services
78 Grove Street
Somerville, NJ 08876
(908) 231-0840

Union County Legal Services
60 Prince Street
Elizabeth, NJ 07208
(908) 354-4340

Warren County Legal Services
91 Front Street, P.O. Box 65
Belvidere, NJ 07823
(908) 475-2010

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Things You Can Do To Prevent Lead Poisoning

1. **Get your child tested for lead at least once a year.**
2. **Keep your child away from loose, chipping, or peeling paint.**
   - Check all the places where your child spends time for cracked or peeling paint (homes of relatives, babysitters, daycare centers).
   - Tell your landlord or housing authority right away when paint begins to peel.
   - Report peeling paint to your local health department and work with them to get rid of these hazards in a safe way.
   - Cover peeling paint with tape or contact paper to temporarily protect your child.
3. **Make sure your child eats properly.**
   - Make sure your child eats at least three meals a day. Children's stomachs absorb more lead when they are empty.
   - Give your child foods that have iron: lean meats, tuna, beans, eggs, greens. These foods help protect the body against lead. Give your child foods that have calcium: milk, cheese. Calcium helps protect your child's bones against lead.
   - Give healthy snacks like raisins, fruit, cheese, or yogurt. Try not to give your child too many fatty, junk foods like fried foods or potato chips. Fatty foods allow the body to absorb lead faster.
4. **Wash your child's hands before every meal, before every snack, and before bedtime.**
5. **Wash baby bottle nipples, pacifiers, and toys that infants and children put into their mouths.**
6. **Avoid lead in drinking water.**
   - Let the water run from the *cold* water faucet for a few minutes before using it for *drinking*, *cooking*, or *preparing baby formulas*. Fill a pitcher of water after letting the water run, and keep it in the refrigerator for drinking during the day.
   - Do *not* use water from the *hot water faucet* for cooking or drinking or making baby formulas.
7. **Do not store food in metal cans after they have been opened. Use nonmetal containers to store food.**
8. **Wash floors and window sills with a high phosphate cleaner (like automatic dishwasher detergent mixed with water) at least once a week to control dust.**

Adapted from HUD, "Lead-Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing," p. 13 (1990).

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■ Legal Services of New Jersey
78 New Street
New Brunswick, New Jersey 08901-2583

TITLE: Renovating Your Home Without Lead Poisoning Your Children

SOURCE: Conservation Law Foundation

LEAD

Renovating Your Home Without Lead Poisoning Your Children

FOR MANY PROPERTY OWNERS, HOME RENOVATIONS SEEM LIKE A NIGHTMARE—everything takes longer and costs more than expected and life in the middle of a construction zone is unpleasant and uncomfortable. For some parents of pre-school children, however, home renovations become a real nightmare when the rehabilitation work disturbs lead paint and poisons their children.

More than 90% of all homes in the Northeast built before 1980 contain some lead paint on interior or exterior surfaces, so New Englanders can safely assume that their homes present potential lead hazards. In general, older homes are more likely to contain lead paint and to have larger amounts of lead paint than newer homes. *(See Table.)*

Contrary to popular belief, lead paint can be dangerous to pre-school children even when it is intact and sometimes when it is buried under layers of non-lead paint. One of the greatest dangers occurs when maintenance activities or renovations disturb painted surfaces and create lead chips and dust. A growing number of children are being poisoned during home renovations, creating a tragic but preventable mini-epidemic.

Abatement—the elimination of lead paint hazards from a home or apartment—is a dangerous process which can contaminate the home and poison both workers and children if done improperly. **Property owners should not attempt lead paint abatement themselves.** Abatement should be performed by professionals who have been specially trained and; preferably, licensed by the state; Massachusetts has been licensing contractors for several years and Connecticut, Maine and Rhode Island are establishing licensure programs.

The Centers for Disease Control recently warned that "remodeling or repainting homes with lead-based paint should be considered just as hazardous as abatement." Therefore, specially trained contractors should also be used when planned home renovations will disturb lead-painted surfaces.

Because of the need for specialized training and equipment, property owners should not undertake do-it-yourself or other rehabilitation projects that will generate lead dust and paint chips. **Under no circumstances should a pregnant woman be present during home renovations where lead paint is present**; developing fetuses are exquisitely sensitive to neurological damage from lead exposure. (Even women who plan to become pregnant should avoid exposure, given new evidence that lead may be deposited in bones and recirculated in the blood stream during a later pregnancy.) If you decide to proceed despite the risks, you or your contractor should take at least the following precautions.

FINDING THE LEAD

Before starting any home renovation project, you should assess whether you will be disturbing lead paint. The best approach is to obtain a full inspection of the home by a trained (and, preferably, licensed) inspector who will give you a surface-by-surface description of where the lead paint is located. Several home test kits are available but do not appear to be capable of detecting dangerous levels of lead in paint.

If you do not get a lead inspection or use a home test kit and your home was built before

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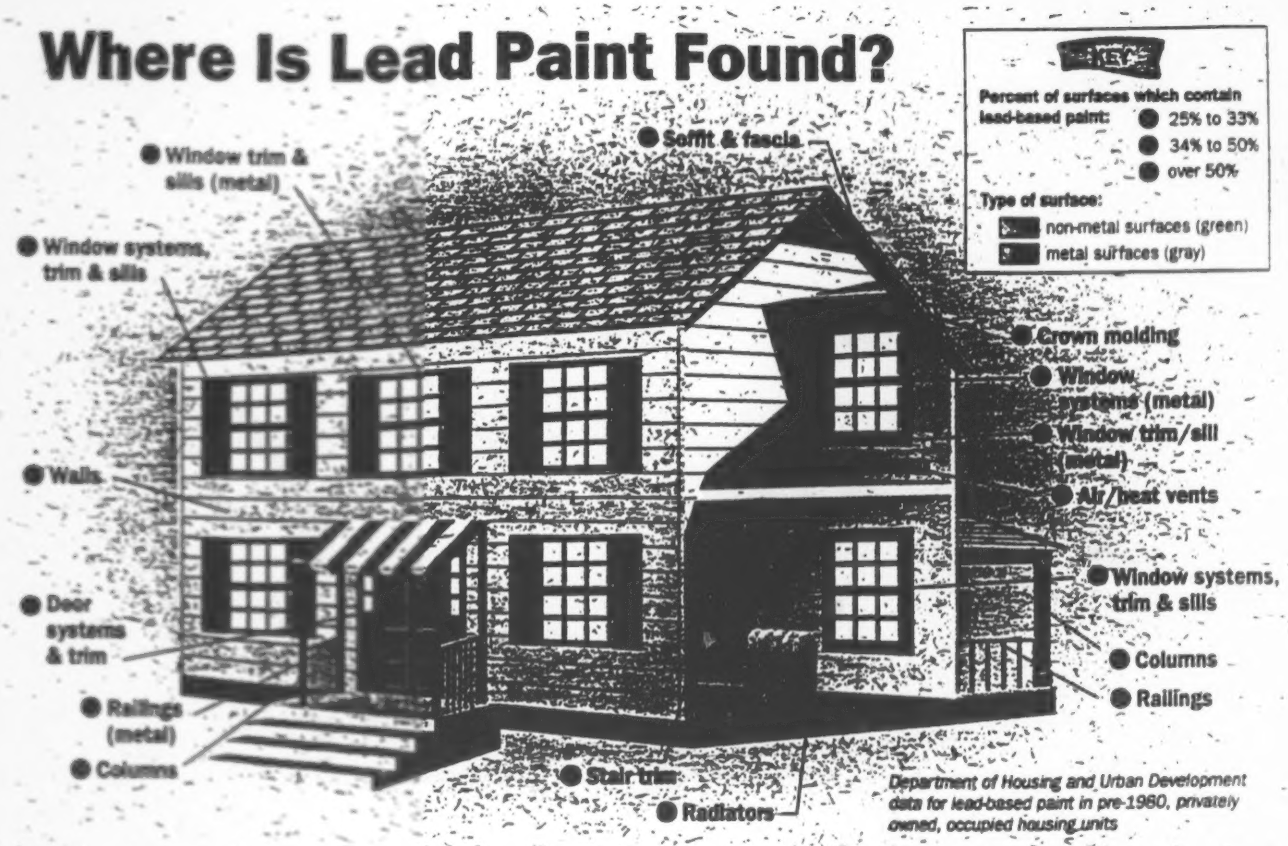
Where Is Lead Paint Found?


Percent of surfaces which contain lead-based paint:
● 25% to 33%
● 34% to 50%
● over 50%
Type of surface:
▨ non-metal surfaces (green)
▨ metal surfaces (gray)
Window trim & sills (metal)
Soffit & fascia
Window systems, trim & sills
Walls
Door systems & trim
Railings (metal)
Columns
Stair trim
Radiators
Crown molding
Window systems (metal)
Window trim/sill (metal)
Air/heat vents
Window systems, trim & sills
Columns
Railings

Department of Housing and Urban Development data for lead-based paint in pre-1980, privately owned, occupied housing units

1980, you should act as if the paint contains lead and follow the appropriate precautions. While painting patterns varied widely, some generalizations can be made about where lead paint is likely to be found within a home. Lead-based paint was a hard, glossy paint most frequently used on windows, doors, stairs, railings, columns and trim *(see Figure)*, so renovation work involving these surfaces and fixtures is particularly likely to create lead hazards. Lead may also be found in old plaster and varnish.

HIRING A CONTRACTOR

If you will be using one or more contractors to do the renovation work, it is important to make sure that they will follow your instructions when it comes to dealing with lead paint. One good test is whether the contractor is responsible about the health of the workers, ensuring that they wear respirators and avoid eating and smoking on the job (which can transfer lead dust from hands to mouth). A contractor who makes light of your concerns, or who downplays the risk of lead to workers, probably won't be careful about following procedures for containing and cleaning up lead debris and dust.

If you are not using a contractor who also performs lead paint abatement, ask about the contractor's experience on jobs which involved special precautions for lead paint; get names and check references. Ask if the contractor owns or is willing to rent special equipment, such as High Efficiency Particulate Air (HEPA) vacuums, needed to clean up lead dust. Make sure the contractor is willing to guarantee that the work will meet standards for safe levels of lead dust *(see below)* or come back and repeat the cleaning at no cost until dust lead levels are satisfactory.

RENOVATION METHODS

One way to minimize lead contamination during renovations is to avoid practices which generate large amounts of lead dust and debris. The safest method is replacement of fixtures or non-structural components painted with lead, particularly windows.

Many renovation projects will require lead paint to be scraped or otherwise removed. This is the most hazardous part of the renovation, but some methods are more dangerous than others because they generate more lead dust or fumes. Power sanding or dry sanding or scraping of lead-painted surfaces generates large amounts of fine, difficult-to-clean dust and should be avoided wherever possible; heating devices which operate at more than 700°F generate dangerous lead fumes and should not be used on lead paint.

TAKING PRECAUTIONS

If at all possible, everyone (especially pregnant women and pre-school children) and pets should leave the house during renovations which disturb lead paint. If you will be living at home during the renovations, several precautions must be strictly observed to reduce the risk of lead chips and dust from contaminating living areas:

- Rooms should be worked on one at a time and the room being renovated should be sealed off by covering all doors and windows with plastic (which should be at least 6 mils thick); a good method is to tape a plastic sheet to all four sides of a door, slitting it to allow workers to pass through, then tape a second sheet of plastic to the top of the door to fully cover it.
- No one other than the people doing the renovation work should be present in the

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room at any time, even after work is done for the day; if possible, avoid going into adjacent rooms at least while renovations are underway.

- Those doing the renovations should carefully follow all of the special precautions outlined below.
- Both the room being worked on and the area immediately outside all doors leading from that room should undergo daily clean-up as described below.

Additional precautions should be taken to minimize lead contamination within the work area. Everything that can be moved (including furniture and drapes) should be removed before work begins; all non-movable furniture should be covered with plastic. Forced-air heating and cooling systems should be shut down and sealed off. Floors should be covered with two layers of plastic and the top layer replaced if it rips. When scraping or painting outside walls, all windows and doors on that side should be closed and sealed with plastic; drop cloths should be spread on the ground for several feet out from the foundation.

Those doing the renovations must be very careful to avoid poisoning themselves and dispersing dust throughout the house. Everyone in the work area should wear a respirator (at least a negative-pressure, half-mask respirator with a HEPA filter) and no one should eat, drink or smoke. Workers should wear disposable full-body overalls, gloves and shoe covers and remove them before leaving the sealed-off room. This clothing (and other waste material) should be securely bagged before it is taken out of the room.

Finally, make sure any contractors coming in to your house do not bring in lead contamination from the outside (e.g. by using old dropcloths).

CLEANING UP

No matter how careful you or your contractor are during renovations, all work areas need to be thoroughly cleaned using special methods before they can safely be used.

AN OPEN LETTER TO PARENTS

I'd like to tell you a little about what has happened to my family because my husband and I remodeled our kitchen.

When my daughter Ann was a year old, I took her to her pediatrician for a check-up. It is routine for a lead test by finger stick to be done at this time. I had no problem with this and agreed to have Ann tested. The test showed an elevated EP, which can indicate lead poisoning. Ann's doctor couldn't tell me if she was indeed poisoned because the test needed to be taken one step further to get the actual lead level. Within a few days we knew that our 13-month-old baby was *lead poisoned*. My husband and I were in shock. Ann's pediatrician asked that we take her into Children's Hospital to have a third blood test as well as x-rays of Ann's leg and stomach. These x-rays showed growth had stopped for short periods of time in Ann's legs. The doctor told my husband and me that Ann would need chelation therapy, which is a toxic drug that allows the lead to clump together and be excreted. This is administered intravenously. Ann had to stay in the hospital for two weeks, but it felt more like two months.

While in Children's Hospital with our daughter, my husband and I were asked many questions. The doctor needed to find out where Ann's source of lead was. They asked us if our house was 30 years old or more, and it was. We were asked what type of work my husband did. When he said construction, they asked if he knew he could be bringing home lead dust on his clothes. Last, but most importantly, were we doing any *home renovations*? When we said yes, they all seemed to know that this would be Ann's source of poisoning. It only took about 48 hours for a licensed inspector to confirm what they thought. *Ann was lead poisoned by home renovations*. The horsehair plaster we had pulled off the wall generated lead dust. The dust is so fine it gets on everything, no matter how much cleaning you do. It gets on toys and then on fingers which go right into a little child's mouth.

My letter to you is not for sympathy, it is to make you aware of a danger that can be avoided. If you are planning to do home renovations, contact a Contractor/Licensed Deleader. Let him know how old your property is and if you think there may be lead paint or horsehair plaster. He can take all the precautions so your child won't end up poisoned. Ask for references of home owners and call these people with questions. Or wait until your youngest child is six years old before doing home renovations.

Good health to you and your family.

–Ann's Mom

A Conservation Law Foundation Publication
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Written by Stephanie Pollack
Edited by Chitrita Banerji
Designed by David Gerratt
Illustrations by Annie Bissett

CLF is a nonprofit environmental law organization that relies on the support of its 6,000 members. If you are not already a member, please call Elaine Lawrence at (617) 742-2540 to find out how you can join. We need your help to battle lead poisoning and its devastating effects.

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TO GET MORE INFORMATION ABOUT LEAD POISONING

CONNECTICUT

Department of Health Services
Environmental Health Division
150 Washington Street
Hartford CT 06106
(203) 566-3186

MAINE

Department of Human Services
Bureau of Health/Division of Public Nursing
State House Station 11
Augusta ME 04333
(207) 289-3259

MASSACHUSETTS

Department of Public Health
Childhood Lead Poisoning Prevention Program
305 South Street
Jamaica Plain MA 02130
(800) 532-9571 or (617) 522-3700, x 180

NEW HAMPSHIRE

Department of Health and Human Services
Childhood Lead Poisoning Prevention Program
6 Hazen Drive
Concord NH 03301
(800) 852-3345 ext. 4507 or
(603) 271-4507

RHODE ISLAND

Department of Health
Division of Family Health
302 Cannon Building
Providence RI 02908
(401) 277-2312

VERMONT

Department of Health
Division of Environmental Health
P.O. Box 70
Burlington VT 05402
(800) 439-8550

The Conservation Law Foundation's Lead Poisoning Project serves as a clearinghouse for information about lead poisoning prevention in New England and throughout the United States. For legal or technical assistance or more information, write:

Lead Poisoning Project
Conservation Law Foundation
3 Joy Street
Boston, MA 02108

Even if you did not hire a trained lead abatement contractor to do the renovation work, consider hiring one to conduct a thorough, final cleanup; they will own all the necessary equipment and have experience in how to remove the small dust particles which pose the greatest threat. **Never use your household vacuum cleaner to clean up lead-contaminated dust**; small particles will escape the bag and will later be spread throughout the house. If you cannot use a HEPA vacuum, use a wet shopvac to do the cleaning.

The cleaning method most widely used following lead paint abatement is to thoroughly vacuum all surfaces in the work area (and adjacent rooms, if the work is being done in an occupied home) with a HEPA vacuum or wet shopvac; wet wash all surfaces with a high phosphate detergent (use Trisodium Phosphate or check the box on dishwasher or household detergents); and then vacuum again. Cleaning should be done 24 hours after the renovations are complete; in addition, cleaning should be done daily in an occupied home.

MOVING BACK IN

After a work area has received its final cleanup, but before you begin using the home or room, several final issues need to be addressed. The first is ensuring that the room has been cleaned sufficiently to remove lead hazards. The only way to be certain is to have a trained inspector perform "wipe" tests which measure the amount of lead contamination in surface dust.

One frequently encountered problem is that hardwood, linoleum or tile floors become contaminated with fine lead dust which permeates the spaces between boards or tiles. Many health experts therefore recommend sealing floors with clear polyurethane or poly-stain. Upholstered furniture, carpets and drapes should, if possible, be vacuumed with a HEPA vacuum or should be cleaned using a machine that extracts water from the carpet or furniture during the cleaning process. Wood, metal, glass and plastic surfaces should be washed with a high phosphate detergent.

After all the work is done and you have moved back in to your newly renovated home or apartment, there is one more step you can take to be confident that you have not been exposed to dangerous levels of lead. All pre-school children and adults who performed do-it-yourself renovations should get a blood test; make sure to ask the physician for a lead test rather than the screening test (called EP for erythrocyte protoporphyrin) that is still in widespread use but is not sensitive enough to detect lead poisoning.

IF YOU LIVE IN A HISTORIC HOME

Lead was used as both a pigment and a dryer in paint nearly universally until the 1950s; in particular, it was used in many expensive homes because it was considered attractive and durable. Lead paint is thus likely to be found in almost all historic homes, especially on decorative trim surfaces traditionally painted with oil-based paints. Owners of historic properties therefore need to be particularly careful when planning and undertaking restoration projects. At the same time, they will want to choose both renovation and deleading techniques which are sensitive to the home's special properties.

Two good resources for owners of historic homes:

- A 1990 issue of the National Park Service's CRM (Cultural Resources Management) Bulletin, Volume 13, number 1, contains a helpful article and resource list on "Lead-Based Paint in Historic Buildings." Copies are available from: National Park Service, Cultural Resources Management, P.O. Box 37127, Washington DC 20013-7127
- The Massachusetts Historical Commission has prepared a booklet entitled "Historic Buildings and the Lead Paint Hazard." A copy of the pamphlet is available for $2.00 (plus $0.90 for postage) from: State Bookstore, State House Room 116, Boston MA 02133.

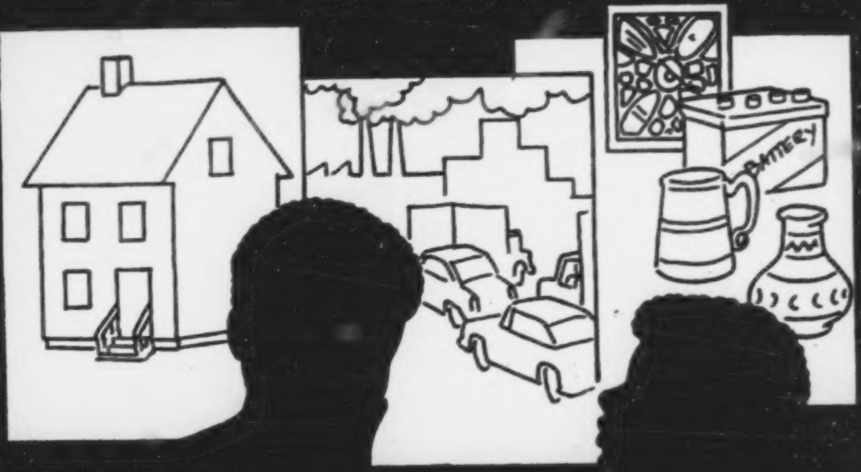
TITLE: What Everyone Should Know about Lead Poisoning
Scriptograph Booklet

AVAILABLE FROM:
Channing L. Bete Co. Inc.
South Deerfield, MA. 01373
1-800-628-7733

USED FOR:
Neighborhood Groups
Patients/Families
PTA/PTO
Realtors
Public Service Organizations
Nurseries/Day Care
Churches
City/County Festivities
Outreach

COMMENTS: Physicians, Sanitarians, Public Health Nurse, Out Reach Worker, and the Lead Secretary all agree this is the single most effective piece of printed information we use. It reaches all educational levels except non-readers, but even the illustrations give them source information. It can be personalized and is as cost effective as possible. It is a Number 1 choice for informing the general population.

LEAD POISONING



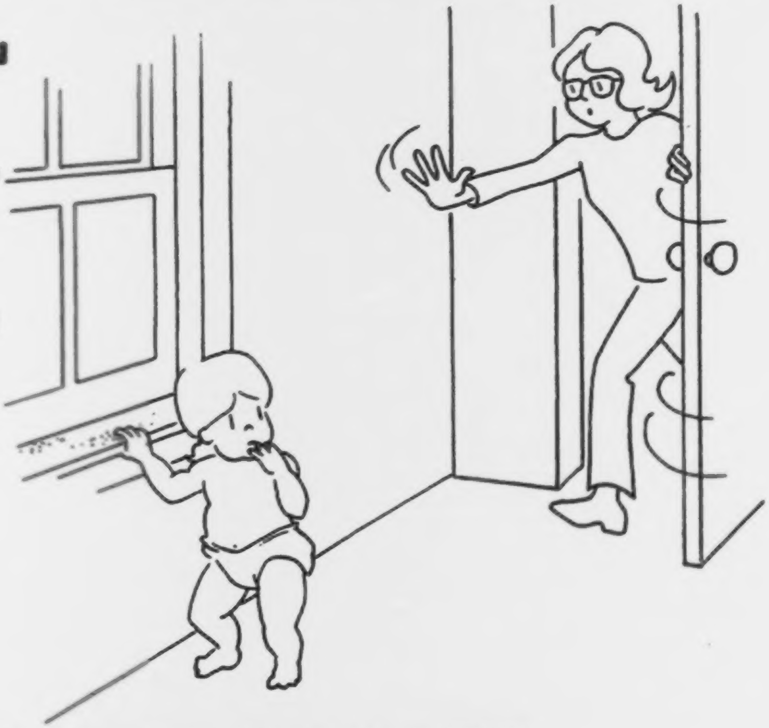
What is LEAD POISONING?

It's a disease caused by swallowing or inhaling lead.

EVEN SMALL AMOUNTS of chipped lead paint or leaded dust can be dangerous in the body.

YOUNG CHILDREN FACE GREAT RISKS:

- Their bodies absorb lead more easily than adults' bodies do.
- They put everything into their mouths. And – no matter how hard you try – it's impossible to keep an eye on a toddler every minute!
- There are usually no symptoms of lead poisoning.



A SCRIPTOGRAPHIC BOOKLET by CHANNING L. BETE CO., INC., South Deerfield, MA 01373 U.S.A.
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Lithographed in U.S.A. 1991 Edition 18028C-2-91
To reorder phone 800-628-7733 and request booklet number 18028.

WHY
is it important to
KNOW ABOUT LEAD POISONING
?

Because it's very common -- millions of American children are affected by lead poisoning.

CHILDREN IN NEARLY ALL PARTS OF THE U.S. ARE AFFECTED.

- City children who live in old, poorly maintained housing or in housing undergoing renovation face the greatest risk.
- Suburban and rural children face danger, too, if they live in older homes with peeling or chipping paint or in houses being renovated.
- Any child may be at risk, because lead is available from many sources.

Risk is greatly increased if children are poorly nourished.

BUT,
LEAD POISONING
IS PREVENTABLE!

Learn more...

HOW LEAD AFFECTS CHILDREN

AT LOW LEVELS,

the effects of lead poisoning may not be obvious.

But studies indicate that even low levels of lead may:

- harm a child's development
- damage red blood cell production
- lower IQ scores.

Low-level lead poisoning may also cause behavior problems. For example a child with lead poisoning may be:

- easily excited
- unable to concentrate
- easily upset.

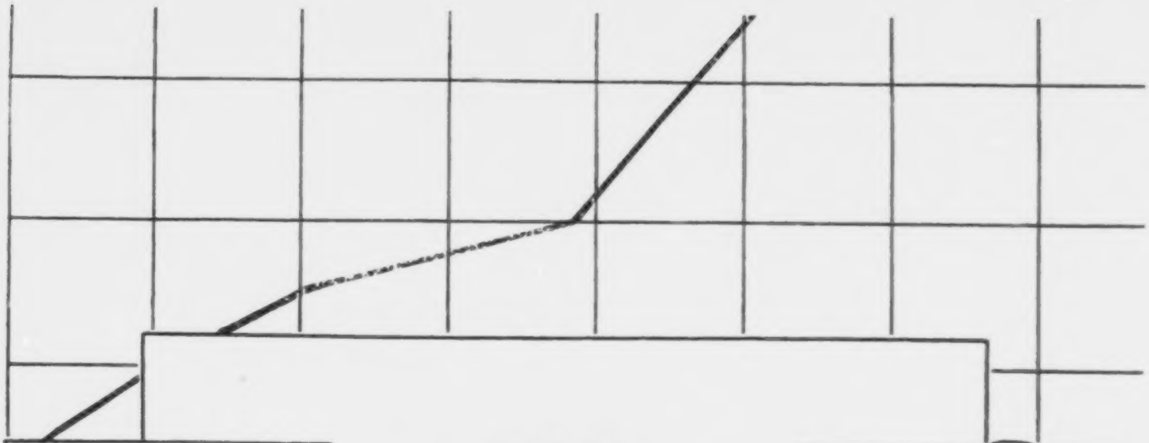
AT HIGHER LEVELS,

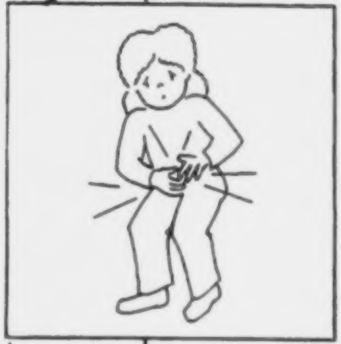
damage may occur to:

- the nervous system
- the kidneys
- the reproductive system
- mental development
- and more.

Lasting mental impairment, coma – and even death – can result!

Even small amounts can cause severe and lasting harm to children!

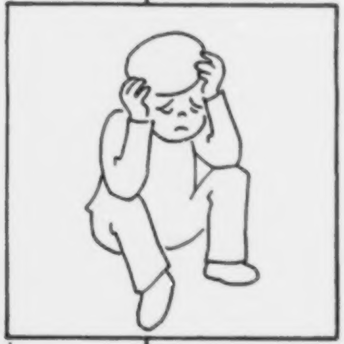


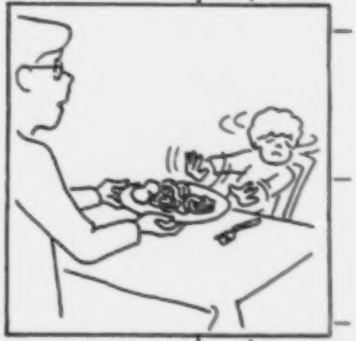


SIGNS OF LEAD POISONING

There are usually no signs, or they may be mistaken for symptoms of flu or other illnesses. If present, symptoms may include:

- stomachache and cramps
- irritability
- fatigue
- frequent vomiting
- constipation
- headache
- sleep disorders
- poor appetite.





AS MORE LEAD ACCUMULATES,

clumsiness, weakness and loss of recently acquired skills can occur.

These symptoms may also indicate other health conditions, but consult your physician if you suspect possible lead poisoning.

SOURCES OF LEAD IN THE ENVIRONMENT

PAINT

Lead paint is the major source of lead poisoning in the U.S. Chipped or peeling lead paint poses the greatest risk. However, even intact lead paint can create fine lead dust which may be difficult to see.

Millions of homes have lead paint on:

- WINDOWS and sills
- DOORS, frames and sills
- WALLS and floors
- STAIRS, railings and banisters
- WOODWORK, molding and baseboards
- PORCHES and fences.

TOYS AND FURNITURE may also have lead paint.

Since 1977, household paints have contained far less than 1% lead.

SOIL CAN BE CONTAMINATED BY:

- chips and dust from exterior paint
- lead-based insecticide
- highway pollution.

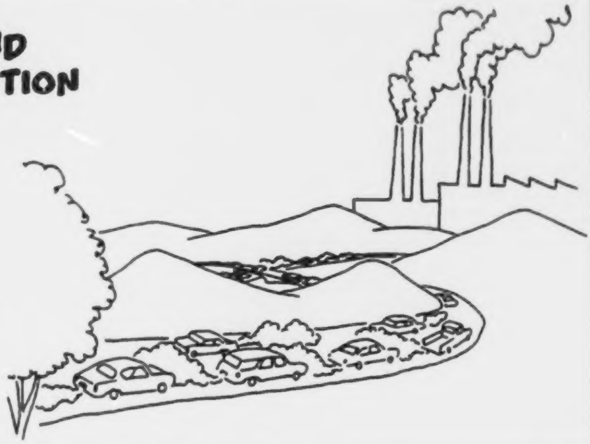
WATER MAY BE CONTAMINATED BY:

- lead water pipes
- plumbing fittings made out of brass or bronze
- lead solder used to connect plumbing.

AUTO EXHAUST AND INDUSTRIAL POLLUTION

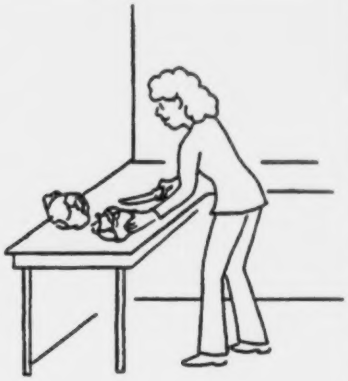
Exhaust from vehicles using leaded gas can contaminate the area surrounding heavily traveled roads.

Lead smelters can also create hazardous lead pollution.



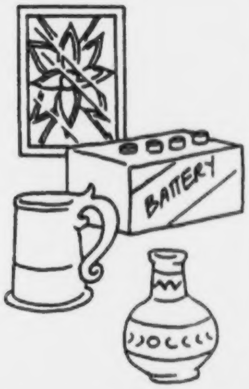
FOOD CAN BE CONTAMINATED IF:

- grown near heavily traveled roads or other sources of lead pollution
- stored or baked in poorly glazed pottery (especially if food is acidic)
- prepared by someone with lead dust on his or her hands
- packaged in cans with lead seams.



OTHER SOURCES INCLUDE:

- dust from renovation, even a few houses away
- antique pewter
- drapery and window weights
- battery casings
- some folk medicines and folk cosmetics
- some porcelain and pottery (especially imported)
- dust or fumes from hobbies that use lead, such as stained glass or target practice.



SCREENING AND DETECTION

All children from 9 months to 6 years should be screened annually -- regardless of where they live! Don't wait for signs or symptoms of lead poisoning!

HIGH-RISK CHILDREN SHOULD BE SCREENED:

- EVERY 2 to 3 MONTHS until age 3
- EVERY 6 MONTHS between ages 3 and 6.

High-risk children are those who:

- live or play in older housing (especially if the home is in poor condition or undergoing renovation)
- have brothers, sisters or playmates with high lead levels
- live with someone who is exposed to lead on the job or who has a hobby that uses lead (stained glass, pottery, etc.)
- live near a lead smelter, processing plant or heavily traveled road or highway.

SCREENING CAN MEAN EARLY DETECTION -- AND LESS DAMAGE.

The lower the lead level, the easier the treatment.

SCREENING LOCATIONS
may include:

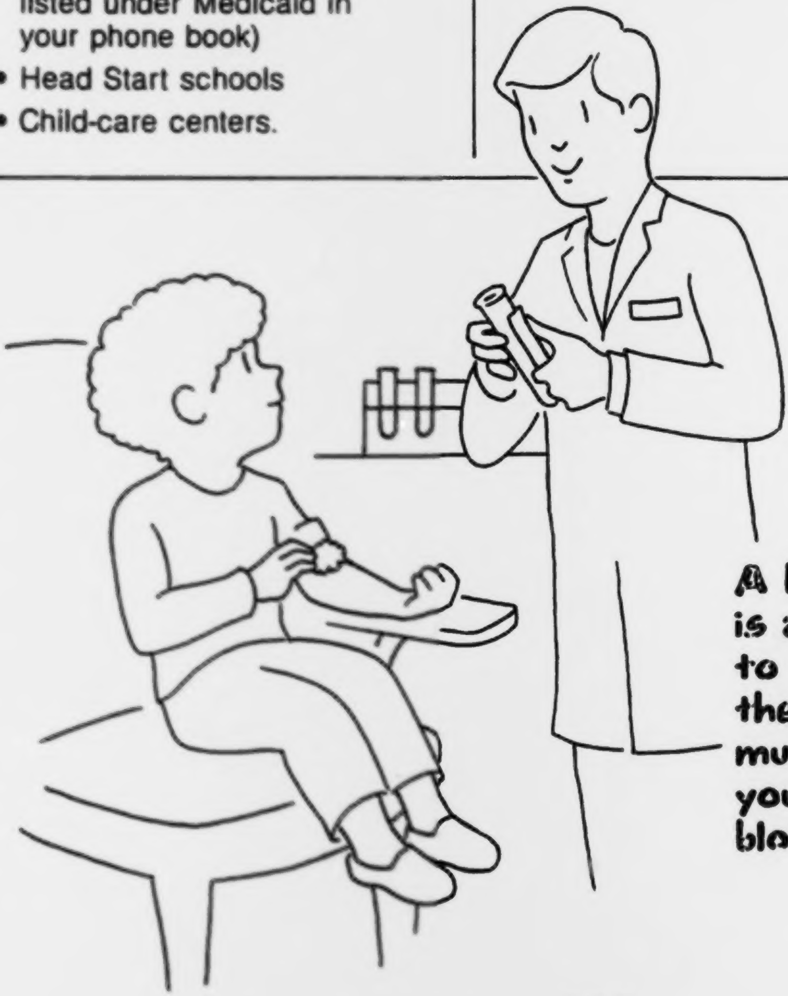
- health clinics
- family physicians or pediatricians
- public health departments.

In larger cities, screening may even be available at:

- WIC Offices ("Women, Infants and Children" program – listed under Medicaid in your phone book)
- Head Start schools
- Child-care centers.

IN SOME CITIES, OUTREACH WORKERS
may visit older neighborhoods to:

- ALERT PARENTS to the dangers of lead
- LOOK FOR SIGNS of peeling paint
- EDUCATE PARENTS about symptoms and screening
- DO THE SCREENING.



A blood test is all it takes to find out if there's too much lead in your child's blood.

BEST COPY AVAILABLE

ADDITIONAL TESTING

may be needed in some cases.

A SECOND BLOOD TEST analyzing a larger blood sample is usually done if a child's screening shows that lead may be a problem.

X-rays and other tests may be necessary, too.

FOLLOW-UP QUESTIONS will be asked to provide a detailed description of:

- the child's behavior, health, symptoms
- anything the child has chewed on or swallowed
- possible sources of lead
- child's diet
- family medical history.

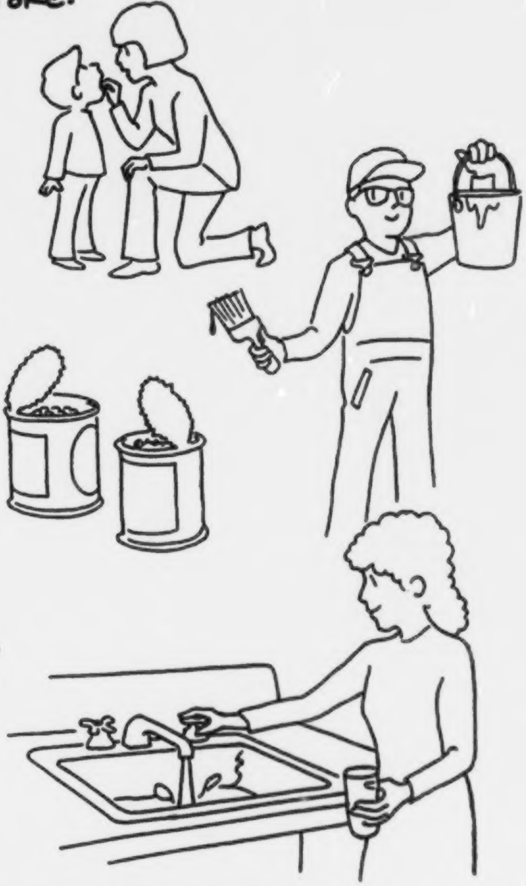
OTHER STEPS MAY INCLUDE:

- home inspection for lead sources
- counseling about measures to protect children.

TREATMENT may be necessary in some cases. It sometimes requires hospitalization, and it may need to be repeated several times.

PREVENTION IS EVERYONE'S RESPONSIBILITY

Here are some steps you can take:

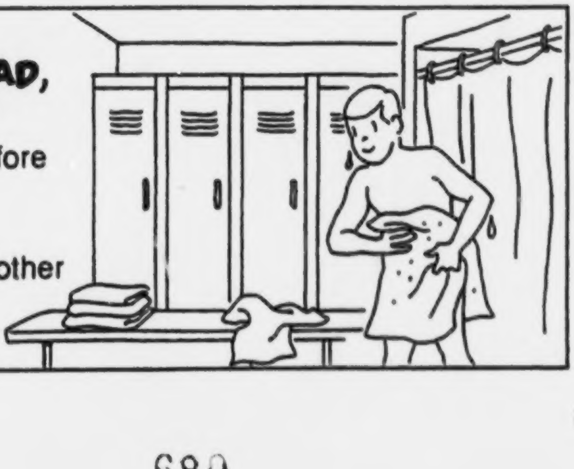


- BE ALERT for chipping and flaking paint.
- MAKE SURE child puts only safe, clean items in mouth.
- FEED well-balanced meals – low in fat, high in iron and calcium.
- DON'T ALLOW child to eat snow or icicles.
- USE safe interior paints on toys, walls, furniture, etc.
- USE pottery only for display if you're unsure about the glaze.
- STORE food in glass, plastic or stainless steel containers – not in open cans.
- HAVE your water tested. Draw drinking and cooking water only from the cold tap, after allowing water to run for a few minutes (if you suspect lead danger).
- HAVE children wash hands before eating.

NOTE: Whether you live in a house or apartment, you can ask your local public health or housing/building official about an evaluation of lead hazards in your residence. If you rent, find out what your rights are and what you can do about any hazards that are found.

IF YOU WORK WITH LEAD, DON'T BRING IT HOME!

- SHOWER AND CHANGE before coming home.
- WASH YOUR CLOTHES SEPARATELY from those of other family members.



IF LEAD PAINT IS FOUND IN YOUR HOME,

take these steps to protect your family until the danger can be eliminated.

- TELL everyone – brothers, sisters, baby sitters – to be alert and keep a close eye on young children.
- SWEEP flakes and wet mop every day using TSP (trisodium phosphate) or another high phosphate cleanser. Check package labels.

Note: Simply painting over old chipped or peeling lead paint won't protect a child – the paint will continue to flake and chip.

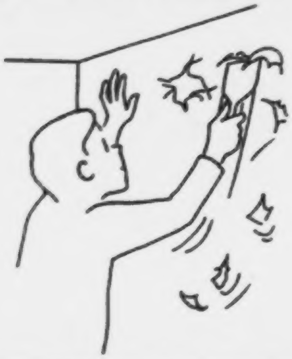
OUTDOORS

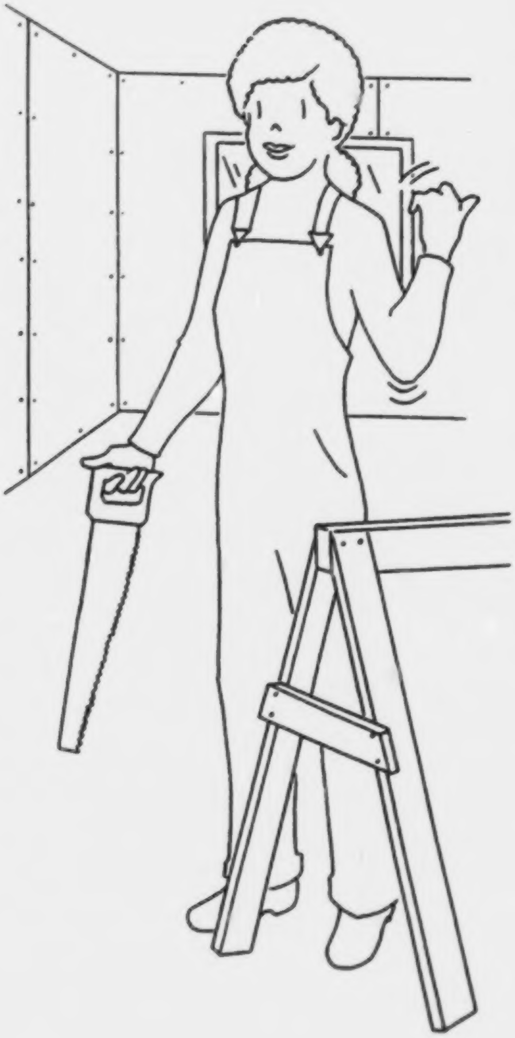
If you think your soil may be contaminated:

- ARRANGE for a soil test.
- REMOVE the soil, or cover it with grass or shrubs.
- BUILD a sandbox (using safe sand) so children can play safely.
- PLANT your garden in a safe, lead-free area away from painted buildings and busy roads.

GET THE LEAD OUT!

WARNING:
Removing lead paint is extremely dangerous -- especially to children and pregnant women!
In general, it's safest to have a qualified professional remove or cover the lead paint.





BEFORE REMOVING OR COVERING LEAD PAINT,

call your state or local health department or building inspector for information about:

- health and safety requirements and precautions
- instructions for removing or covering paint with panelling or sheetrock, or for replacing woodwork, windows, etc.*
- advice on hiring a professional.

* Some states require lead paint to be removed or covered only by a certified contractor.

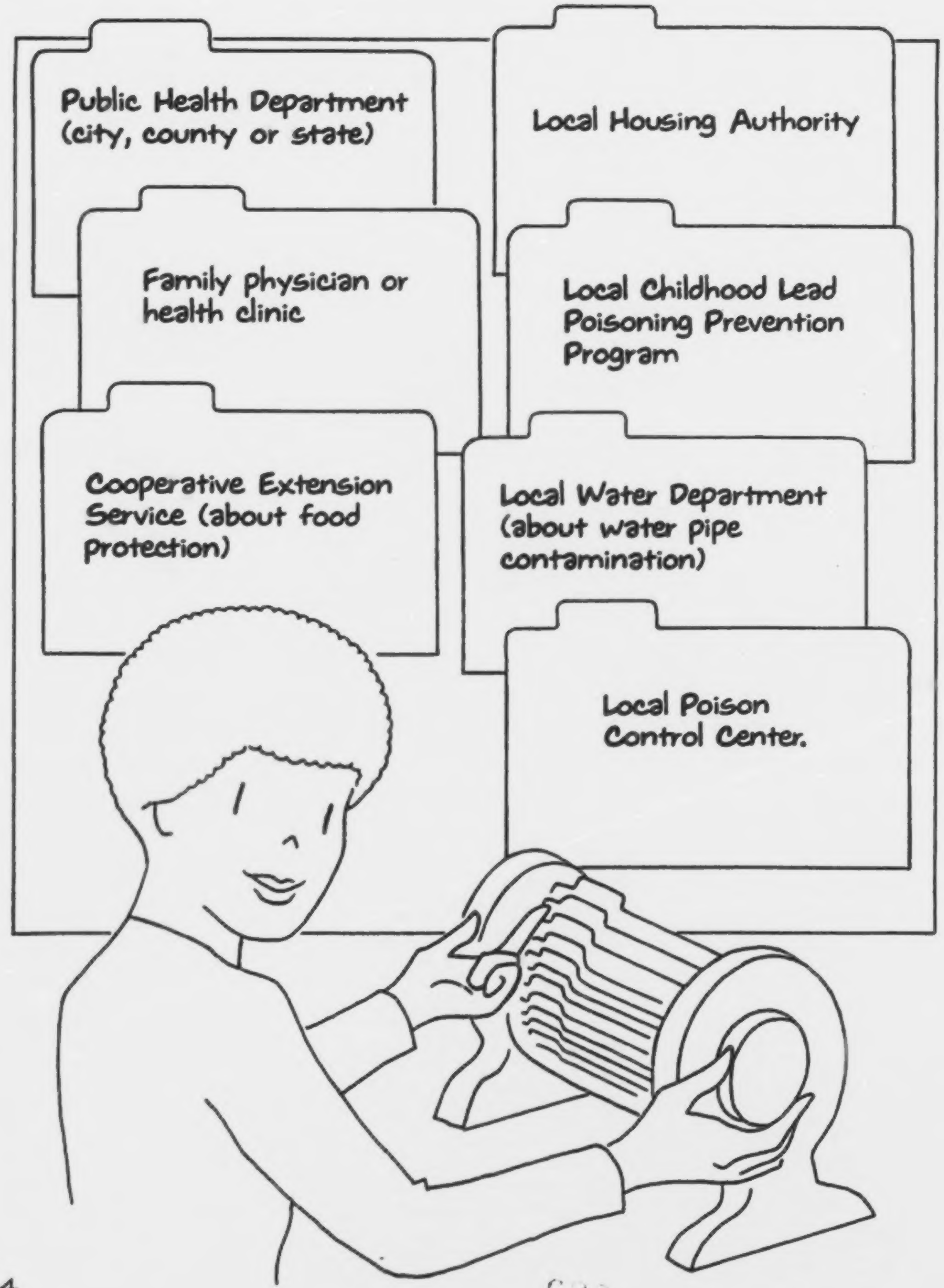
SOME SAFETY TIPS

for when renovations or paint removal take place:

- FOLLOW all health and safety requirements.
- EVACUATE all occupants until well after cleanup.
- STORE furniture, rugs, food, dishes, etc., away from the dwelling until after cleanup.

FOR MORE INFORMATION,

contact your:

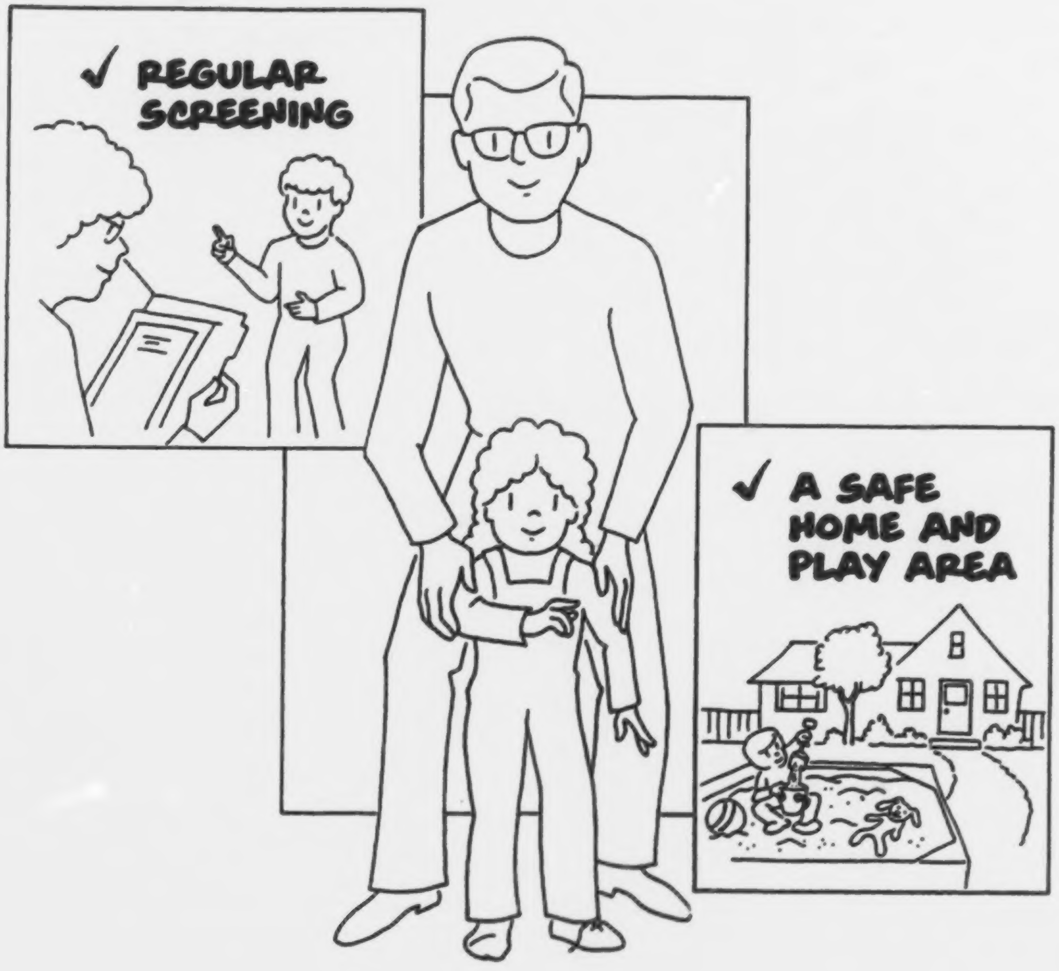


- Public Health Department (city, county or state)
- Family physician or health clinic
- Cooperative Extension Service (about food protection)
- Local Housing Authority
- Local Childhood Lead Poisoning Prevention Program
- Local Water Department (about water pipe contamination)
- Local Poison Control Center.

Soo--

LEAD POISONING IS A SERIOUS THREAT TO CHILDREN

But, it can be prevented.
Protect your child with:


✓ REGULAR SCREENING
✓ A SAFE HOME AND PLAY AREA

And, spread the word
to other parents, too.

LEAD POISONING IS PREVENTABLE
PROTECT YOUR CHILD
HAVE YOUR CHILD TESTED TODAY!

Call Your Doctor or
Your Local Health Department

State of Virginia
Central Virginia Health District
Childhood Lead-Poisoning
Intervention Program
(CLIP)
1900 Thomson Drive
P.O. Box 6056
Lynchburg, VA 24505
(804) 947-6781

947 - 2328

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៩៧០-២៤៧០

ក្មេងខ្លះដែលមានជាតិសំណពុលក្នុងខ្លួន
មិនបង្ហាញអាការៈរោគទេ
តែ
ក្មេងខ្លះទៀតវាអាចទៅជារពិស,
ឈឺក្បាល ឬឈឺពោះ

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Cambodian Versions

កម្មវិធីការពារជាតិសំណពុលនៃជនជាតិអាស៊ីអាគ្នេយ៍

Southeast Asian Lead Poisoning Prevention Program

ជាតិសំណពុលមាន គ្រោះថ្នាក់យ៉ាងខ្លាំងអាច បំផ្លាញខួរក្បាលក្មេង

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Lowell, Mass 01853
(508) 970-2470

១. [illegible]

- បុគ្គលិកទ្វេភាសា/ទ្វេវប្បធម៌
- ផ្តល់ពត៌មានផ្សេងៗស្តីពីជាតិសំណពុល
- ចេញទៅសាកសួរបងប្អូនដល់ផ្ទះ
- ធ្វើតែស្តដល់ក្មេង(ជួសម្រាមដៃដល់ផ្ទះ ឬបកប្រែនៅមន្ទីរពេទ្យ)
- ផ្តល់ពត៌មានដល់ក្រសួងពិនិត្យផ្ទះពីរឿង ទាក់ទងជាតិសំណពុល
- ផ្តល់ពត៌មាននិងទាក់ទងទៅក្រសួងផ្សេងៗ ជូនបងប្អូន

ប្រភពដែលមានជាតិសំណពុល

១. នៅនឹងថ្នាំលាបផ្ទះដែលផលិតមុនឆ្នាំ ១៩៧៨
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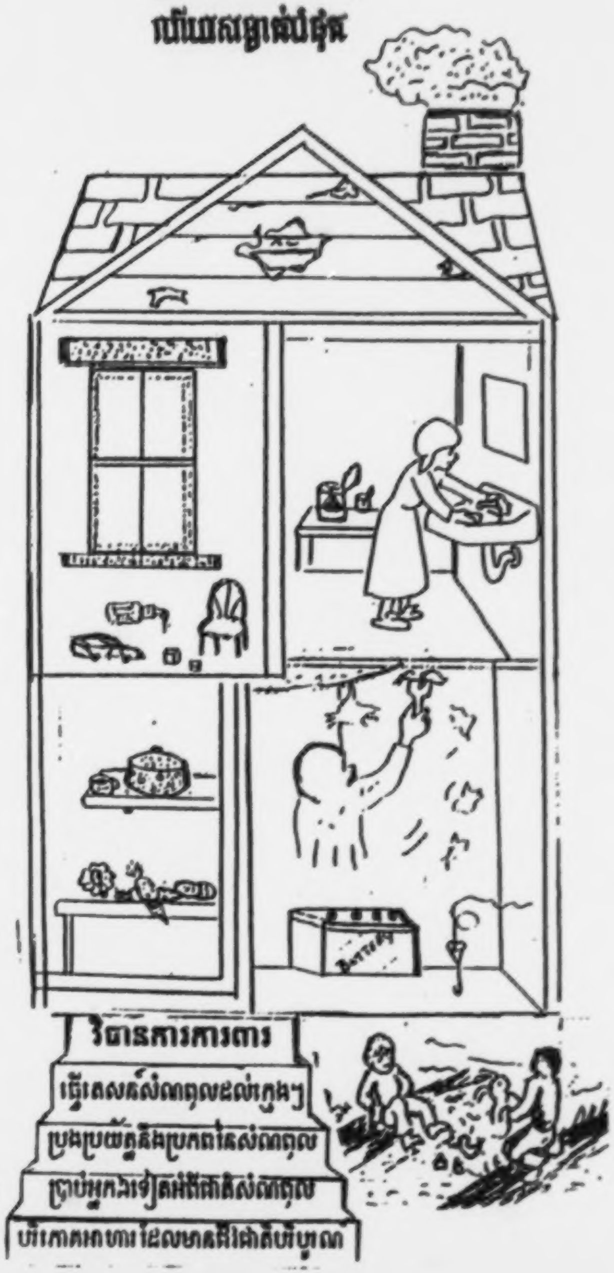
៣. មាននៅក្នុងអាហារដែលចូលដោយធូលី មានជាតិសំណពុល
៤. មាននៅក្នុងកំប៉ុងម្ហូបអាហារដែលបានបើកទុក
៥. មាននៅក្នុងបំពង់ទឹកដែលផ្សារដោយសំណ
៦. មាននៅនឹងដីក្បែរផ្ទះដែលលាបថ្នាំមុន ឆ្នាំ១៩៧៨
៧. មាននៅក្នុងបន្លែដែលដាំលើដីដែល មានជាតិសំណពុល
៨. មាននៅនឹងខោអាវឪពុកម្តាយដែលធ្វើកិច្ចការ ទាក់ទងនឹងជាតិសំណ
៩. មាននៅក្នុងថ្មអាគុយឬសំណស្ទូចត្រី
១០. មាននៅនឹងក្រឡរលោងៗ និង គ្រឿង ប្រើប្រាស់ធ្វើពីគ្រីស្តាល់
១១. ជាតិសំណពុលអាចចម្លងទៅក្នុងផ្ទៃបើសិន ម្តាយមានជាតិពុលនេះក្នុងខ្លួន

ជំនួយដោយឥតគិតថ្លៃ ហើយសម្ងាត់បំផុត


Battery
វិធានការការពារ
ធ្វើតេស្តសំណពុលដល់ក្មេងៗ
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- Bilingual/biculturalstaff.
- Information about Lead Poisoning.
- Home visits.
- Lead testing for children. (Fingersticks in your home or interpreting at doctors's offices and clinics.)
- Referral for inspection of your apartment for lead.
- Other information and referral to other resources.

Sources of Lead

1. Lead is in paint made before 1978.
2. Lead is in dust and chips from old paint.
3. Lead is in food contaminated by lead dust.
4. Lead is in food stored in open cans.
5. Lead is in water from lead in water pipes.
6. Lead is in soil near houses painted before 1978.
7. Lead is in vegetables grown in soil which contains lead.
8. Lead is in clothes of parents who work with lead.
9. Lead is in batteries and fishing weights.
10. Lead is in some pottery glaze and lead crystal.
11. Lead can pass to an unborn child if the mother was exposed to lead.

Hãy gọi ngay :
Ngừa bịnh hơn trị bịnh
số điện thoại : 970-2470

Nhiều trẻ em bị lậm chất độc chì không tỏ dấu gì là bịnh cả. Nhiều trẻ nhiễm chất chì quá mức nghịch ngợm hoặc bị đau bụng hay nhức đầu.

Những bước phòng ngừa :
Thử máu đo chất chì.
Đề phòng về nguồn gốc của chì.
Cung cấp những bữa ăn bổ dưỡng.
Phổ biến cho người khác biết về sự nguy hiểm của chất chì.

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Vietnamese Version

Chương Trình Bảo Vệ Sự Ngộ Độc Chì Cho Người Đông Nam Á.

Southeast Asian Lead Poisoning Prevention Program

Chì rất là nguy hiểm cho trẻ em, chì có thể làm hư hại óc của trẻ.

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(508) 970-2470

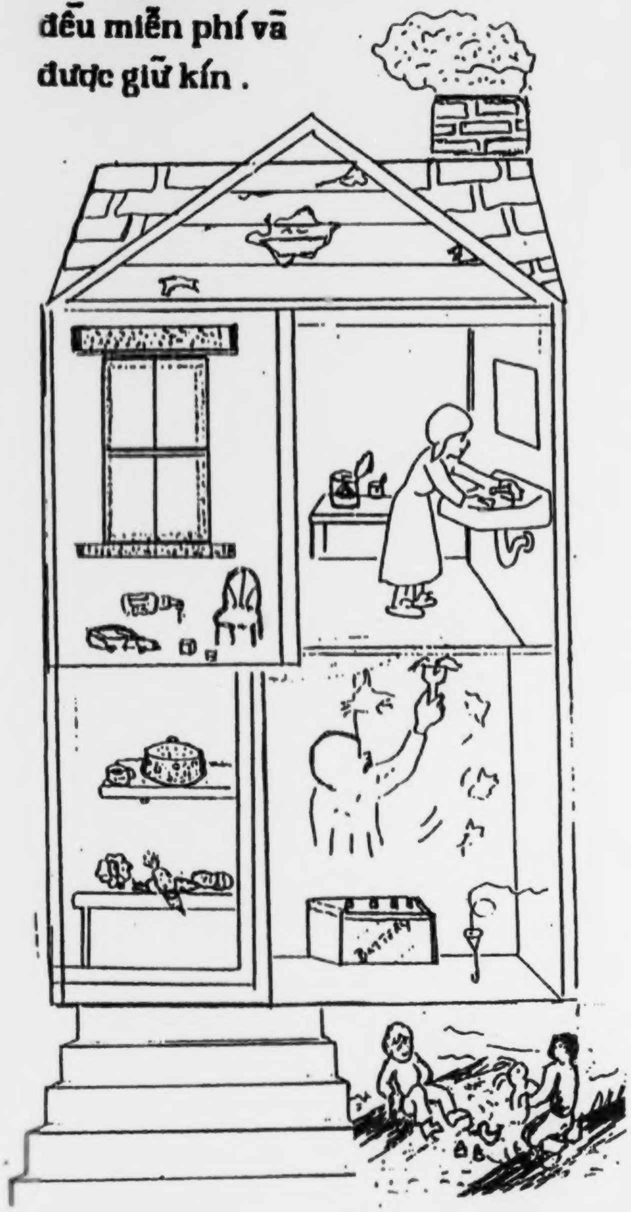
Dịch vụ gồm có

- Nhân viên trong chương trình nói 2 ngôn ngữ thông hiểu 2 văn hóa.
- Tin tức về sự nhiễm độc của chất chì.
- Thăm tại gia.
- Thử máu tại nhà cho trẻ em và thông dịch tại văn phòng bác sĩ hay bịnh viện.
- Giới thiệu thanh tra đến nhà để tìm chì.
- Tin tức và giới thiệu.

Nguồn gốc của chì

1. Chì có ở trong sơn làm trước 1978.
2. Chì có ở trong bụi và mảnh vụn từ sơn cũ rơi xuống.
3. Bụi chì ô nhiễm thức ăn.
4. Chì có ở trong đồ hộp đã được mở ra.
5. Chì có ở trong nước nơi những ống dẫn nước có chì
6. Chì nhiễm trong đất ở gần nhà đã sơn trước năm 1978.
7. Chì có ở trong rau cải nếu trồng trong đất nhiễm chất chì.
8. Chì ở trên quần áo của cha mẹ làm việc với chất chì.
9. Chì ở trong bình điện hoặc pin và phao câu cá làm bằng chì.
10. Chì ở trong lớp mạ của một số đồ gốm và chì thủy tinh.
11. trẻ sơ sinh có thể bị nhiễm độc chì nếu người mẹ đã bị ngộ độc chì.

Những dịch vụ trên đều miễn phí và được giữ kín.



Services

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ໂທກ່ອນ

ຄົ້ນຄວ້າຫາສານພິດກ່ອນ
ທີ່ມັນຈະເປັນໄພຕໍ່ທ່ານ
໙໗໐-໒໔໗໐

ບາງຄັ້ງສານພິດອາດຈະບໍ່ມີອາການ
ແຕ່ບາງຄົນທີ່ມີສານພິດອາດຈະກາຍ
ເປັນຄົນຂີ້ດີ້ນຫລືມັກເຈັບທ້ອງແລະເຈັບຫົວ
ເລກໂທລະສັບ ໙໗໐-໒໔໗໐

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Laotian Version

ໂຄງການປ້ອງກັນສານພິດ
ເພື່ອ
ຊາວເອຊຽນຕາເວັນອອກສ່ຽງໃຕ້

Southeast Asian Lead Poisoning Prevention Program

ສານພິດເປັນອັນຕະລາຍຕໍ່ເດັກ
ມີຜົນສາມາດທຳລາຍ [illegible]

287 Appleton St.
P.O. Box 220
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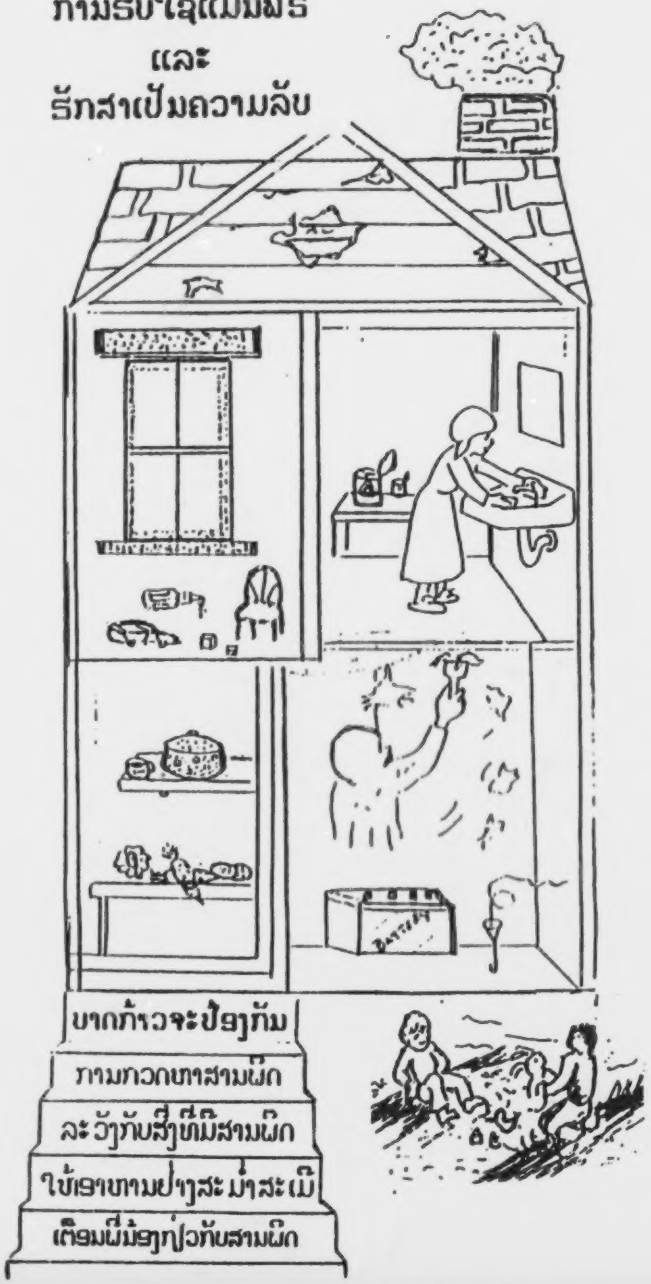

Services

- Bilingual/biculturalstaff.
- Information about Lead Poisoning.
- Home visits.
- Lead testing for children. (Fingersticks in your home or interpreting at doctors's offices and clinics.)
- Referral for inspection of your apartment for lead.
- Other information and referral to other resources.

Sources of Lead

1. Lead is in paint made before 1978
2. Lead is in dust and chips from old paint.
3. Lead is in food contaminated by lead dust.
4. Lead is in food stored in open cans.
5. Lead is in water from lead in water pipes.
6. Lead is in soil near houses painted before 1978.
7. Lead is in vegetables grown in soil which contains lead.
8. Lead is in clothes of parents who work with lead.
9. Lead is in batteries and fishing weights.
10. Lead is in some pottery glaze and lead crystal.
11. Lead can pass to an unborn child if the mother was exposed to lead.

TITLE OF MATERIAL: **Stop Lead Poisoning- A Sesame Street Guide to Prevention**

DESCRIPTION:Besides the fact that Big Bird is a mainstay in the media diet today, he also can be found offering words of advice and precaution to parents. In five categories with 3-5 billets each, Big Bird discusses the things that all parents should know about Lead Poisoning.

INTENDED AUDIENCE: Parents/Caretakers

LIMITS OF MATERIAL: As children grow older and as other cartoon characters become popular, children attend to big bird less than in the 1970 and 80s. With toddlers, Big Bird still has a positive image and is attractive.

AGENCY:National Safety Council
444 North Arlington Avenue
Chicago, Illinois 60611

CONTACT PERSON:

¿Dónde puedes llevar a los niños para el examen de envenenamiento con plomo?

- **Al Departamento de Salud de su localidad**
- **A una clínica**
- **A un hospital**
- **A la oficina del doctor**

National Safety Council
444 North Michigan Avenue • Chicago, Illinois 60611

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Termine el envenenamiento con plomo en su comunidad

- **Lleve a sus niños menores de seis años a un examen médico una vez al año para determinar si tienen envenenamiento con plomo.**
- **Anime a sus amigos y a sus vecinos a llevar a sus niños a un examen de envenenamiento con plomo.**
- **Comparta con un amigo lo que usted ha aprendido sobre el envenenamiento con plomo.**
- **Dele este folleto a un vecino.**

¡PARE! EL ENVENENAMIENTO 'CON PLOMO'

Una Guia de Sesame Street Para su Prevención

© 1990 Children's Television Workshop   Big Bird © 1990 Muppets, Inc.

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¿Qué deben saber los padres sobre el envenenamiento con plomo?

- **El envenenamiento con plomo es una enfermedad.**
- **El plomo es un veneno invisible.**
- **La mayor parte de los niños que padecen de envenenamiento con plomo no se ven enfermos.**

- **Todos los niños menores de seis años deben ser examinados por lo menos una vez al año para ver si tienen envenenamiento con plomo. El examen consiste de un simple pinchazo en el dedo.**

¿Cómo se envenenan los niños con plomo?

- **Comiendo pedacitos de pintura seca.**
- **Comiendo tierra o polvo contaminado con plomo.**
- **Llevándose a la boca las manos o juguetes contaminados con polvo de plomo.**

¿Qué pueden hacer para evitar el envenenamiento con plomo?

- **Limpiar los pisos, los muebles y la repisa de las ventanas con paños humedos.**
- **Lave las manos de sus niños antes de comer.**
- **Lave bien los objetos que los niños acostumbran meterse en la boca.**

- **Lleve sus niños menores de seis años de edad al doctor una vez al año para un examen de envenenamiento con plomo. El examen consiste de un simple pinchazo en el dedo.**

Where can children be tested for lead poisoning?

- **Local Health Department**
- **Clinics**
- **Hospitals**
- **Doctor's Offices**

National Safety Council
444 North Michigan Avenue • Chicago, Illinois 60611
5M686 Printed in USA 49002

Stop Lead Poisoning in your Community

- **Take your children under six to be tested once a year for lead poisoning.**

- Encourage your friends and neighbors to have their children tested for lead poisoning.
- Tell a friend what you learned about lead poisoning.
- Pass this brochure on to a neighbor.

LEAD CLINIC

STOP LEAD POISONING

A Sesame Street Guide to Prevention

LEAD CLINIC

What should parents know about lead poisoning?

- Lead poisoning is a disease.
- Lead is a poison that you cannot see.
- Most children with lead poisoning never look sick.

- **All children under six should be tested once a year for lead poisoning. A doctor will do a quick finger prick test.**

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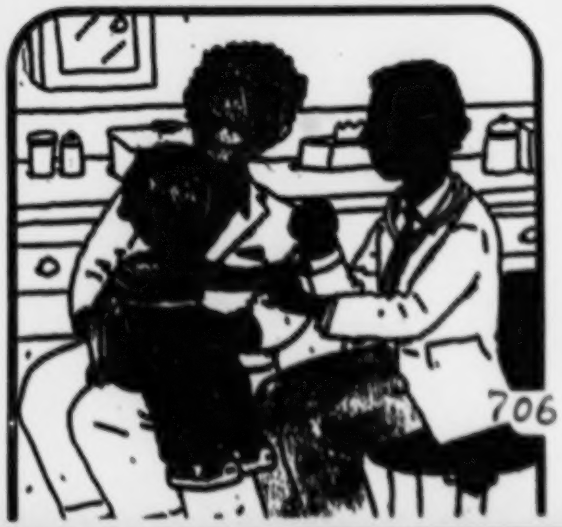
How do children get lead poisoning?

- By eating lead paint chips.
- By eating soil or dirt that has lead in it.
- By putting hands or toys that have lead dust on them in their mouths.

What can parents do to help prevent lead poisoning?

- **Wet mop floors, furniture and windowsills to remove dust.**
- **Wash children's hands before they eat.**
- **Wash objects that children often put in their mouths.**

- **Take your children, under six, to be tested once a year for lead poisoning. A doctor will do a quick finger prick test.**



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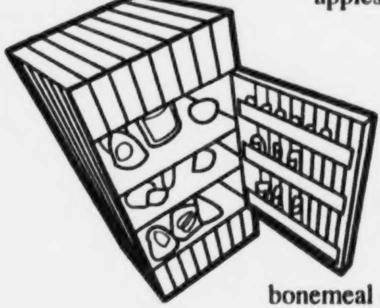
Eat Right

Eating foods high in calcium, iron and vitamin C will help prevent lead from being absorbed into your blood stream.

Milk and yogurt have lots of calcium.

Raisins, peanut butter, beef, and leafy vegetables are good sources of iron.

Fruits such as oranges and apples are high in vitamin C.



Be sure to take your prenatal vitamins every day.

Don't use bonemeal or dolomite as calcium supplements.

Limit coffee and do not drink alcohol while you are pregnant.

Keep Your Drinking Water Safe

Lead from your plumbing may get into your drinking water at home.

Let cold water run for one minute before using it for drinking or cooking.

Do not use hot tap water for cooking, drinking or baby formula.

Talk With Your Doctor or Nurse

You can learn more about lead at your clinic, doctor's office, or local health department. Ask what you can do about lead in your home and at your job.

Make Your Home a Safe Place to Grow Up.

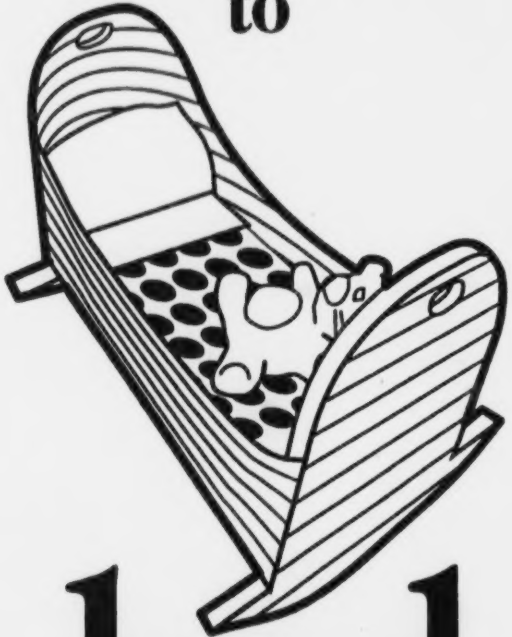
After your baby is born, it is the homeowner's legal responsibility to have lead-based paint on chewable, accessible surfaces permanently covered or removed. Your first step should be to have your home or apartment inspected for lead by a licensed lead paint inspector.

For more information contact:

The Massachusetts Department of Public Health
Childhood Lead Poisoning Prevention Program
305 South Street, Jamaica Plain, MA 02130
800-532-9571

Special thanks to the Maryland Department of the Environment, Lead Poisoning Prevention Program and Maryland Healthy Mothers, Healthy Babies Coalition

The pregnant woman's guide to



lead poisoning

Massachusetts Department of Public Health

Lead is a Dangerous Substance

It can harm children even before they are born.

Swallowing or inhaling lead while you are pregnant can increase the risk of prematurity, low birthweight and miscarriage.

Avoid Lead in Dust and Dirt

When lead paint gets old, it cracks and makes dust.

It's easy to swallow lead dust that is on your hands, your food, or your cigarettes. Wash your hands before eating or preparing food.

To remove dust, wet mop or sponge down floors, woodwork and window sills with a high phosphate detergent such as tri-sodium phosphate (TSP). TSP is available in most hardware stores.

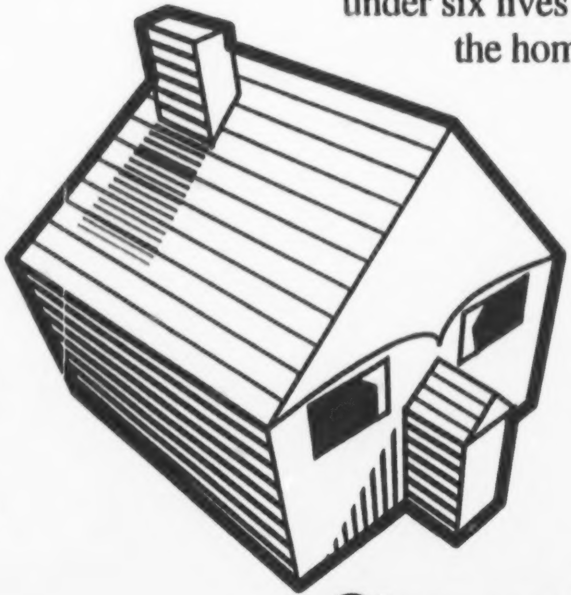
Lead from paint can also get into the soil in your yard. Plant gardens away from painted homes, sheds and fences.

Do Not Remove Lead Paint Yourself

Homes built before 1978 may have lead paint. Do not sand, scrape or burn lead paint in your home. Removing lead paint is very dangerous. It should only be done by a licensed deleader.

Lead hazards may be hidden in your home in paint, dust, soil & water.

Massachusetts law *requires* that lead paint be removed by a licensed deleader if a child under six lives in the home.



Stay out

of your home while paint is being removed. After lead paint is removed, your home must be properly cleaned by a licensed deleader. Also, a licensed inspector must check your home before you and your family move back in.

Avoid Lead in Hobbies and Crafts

The use of lead in hobbies such as jewelry and stained glass making may raise your blood lead level. Solder, paints, ceramic glazes and other materials may contain lead. Lead is melted to make fishing weights, ammunition, and other metal objects too.

While you are pregnant, you and other members of your household should avoid any activity that may expose you to lead, lead dust, or lead fumes.

Avoid Lead on the Job

Lead is used in:

1. Solder for plumbing and wiring
2. Batteries
3. Paint for cars, boats, bridges, and other steel structures
4. Radiators for cars and trucks
5. Leaded gasoline
6. Some colors of ink
7. Bullets

Many jobs can expose you or other members of your household to lead. Some occupations that involve the use of lead include construction workers, auto mechanics, steel welders, printers, plumbers and plastics manufacturers.

Check with your boss or union to make sure you are not being exposed to lead on your job. For more information about worker safety, call the Massachusetts Coalition for Occupational Safety and Health (MassCOSH) at 617-524-6686.

MAIN SOURCES AND PATHWAYS OF LEAD EXPOSURE IN CHILDREN:

- Lead-based paint
- Dust and soil
- Drinking water
- Parental occupations and hobbies
- Air
- Food
- Others, such as traditional folk medicines

WHAT PARENTS CAN DO TO REDUCE BLOOD-LEAD LEVELS

HOUSEKEEPING

- Keep children away from peeling or chipping paint and accessible or chewable surfaces painted with lead-based paint, especially windows, window sills, and window wells.
- Wet mop and wet wipe hard surfaces, using trisodium phosphate detergent (found at hardware stores) or automatic dishwasher soap and water.
- Do not vacuum hard surfaces because this activity is believed to scatter dust.
- Wash children's hands and faces before they eat.
- Wash toys and pacifiers frequently.

NUTRITION

- Make sure your child eats regular nutritious meals, since more lead is absorbed on an empty stomach.

- Make sure your child's diet contains plenty of iron and calcium:

  Examples of foods high in iron are liver, fortified cereal, cooked beans, spinach, and raisins.

  Examples of foods high in calcium are milk, yogurt, cheese, and cooked greens.

OTHER INTERVENTIONS

- **SOIL:**
  If soil around your home is likely to be lead-contaminated (such as around a home built before 1960 or near a major highway), plant grass or other ground cover. If lead-based paint is the source of soil contamination, most lead will be near painted surfaces such as exterior walls. In such cases, plant bushes next to the house to keep children away. If your soil is contaminated with lead, provide a sandbox with a solid bottom and top cover, and clean sand for children to play and dig in.

- **WATER:**
  If the lead content of tap water is higher than the drinking water standard, let the water run for several minutes before using it. Use only fully-flushed water from the cold-water tap for drinking and cooking. To conserve water, collect drinking water in bottles at night after you've fully flushed the water from the tap.

- **FOOD:**
  Do not store food in open cans, especially imported cans. Do not store or serve food in pottery that is meant for decorative use.

- **PARENTS' WORK OR HOBBIES:**
  If you or others in your family work with lead, make sure not to expose your children through any lead-contaminated clothing or scrap material you may bring home.

Commonwealth of Massachusetts
Department of Public Health
Childhood Lead Poisoning
Prevention Program

IMPORTANT FACTS ABOUT CHILDHOOD LEAD POISONING PREVENTION

THE 1991 CDC STATEMENT
PREVENTING LEAD POISONING IN YOUNG CHILDREN

The 1991 statement on childhood lead poisoning prevention from the Centers for Disease Control (CDC) contains:

- Background information on childhood lead poisoning and how to prevent it.

- Information for health-care providers and public agencies about managing and preventing childhood lead poisoning.

The 1991 statement is based on scientific information gathered during the 1980s. In the new statement, CDC:

- Lowers the blood-lead level of concern and calls for a multitier approach to follow-up of children with elevated blood-lead tests, with more intensive medical and environmental interventions at higher blood-lead levels.

- Proposes a phase-in of virtually universal screening for children, using blood-lead measurement.

- Calls for efforts to prevent lead poisoning before it occurs.

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
Public Health Service
Centers for Disease Control
Atlanta, Georgia 30333

CDC

QUESTIONS PARENTS ASK ABOUT LEAD POISONING

BACKGROUND

Q: **I heard that most children have less lead in their blood now than 20 years ago. If this is so, why is childhood lead poisoning in the news now?**

A: The average blood-lead level of U.S. children has come down during the last 20 years, largely because of the reduction of lead levels in gasoline and food. **But as blood-lead levels have come down, concern about the effects of low lead levels in children has risen.**

Q: **Why has concern risen about low lead levels in children?**

A: There is new evidence that lead is harmful at blood levels once thought safe. Studies show that groups of children with higher lead levels are likely to have lower IQ scores, slower development, and more attention problems than similar children with lower lead levels. These effects are subtle and have been observed in large groups of children with lead levels at least as low as 10 micrograms per deciliter. (Micrograms per deciliter, written µg/dL, indicates the amount of lead in a deciliter of blood.)

HOUSING

Q: **How do I know if my house is likely to contain lead-based paint? And if it does have lead-based paint, how do I know if it's posing a threat to my children?**

A: If your house was built before 1960, it may contain lead-based paint, which a qualified housing inspector could identify. Chipping or peeling lead-based paint is particularly dangerous, because it is easy for the chips or flakes to get into children's mouths, either as large pieces, or as particles in house dust. It is very important not to repair areas with deteriorating paint yourself, unless you have had your home inspected and know it contains no lead-based paint. If inspection shows you have lead-based paint, do not renovate or attempt to remove the paint yourself. Work should be done by someone who knows how to protect workers, your family, and the environment. You and your family should not be in the home during renovations or paint removal.

BLOOD TESTS

Q: **Should I have my child's blood tested for lead?**

A: The only way to know for sure if your children have elevated blood-lead levels is to have them tested. The Centers for Disease Control recommends testing every child at 12 months of age, and if resources allow, at 24 months. Screening should start at 6 months if the child is at risk of lead exposure. (For example, if the child lives in an older home built before 1960 which has peeling or chipping paint.) Decisions about further testing should be based on previous blood-lead test results, and the child's risk of lead exposure. In some states, more frequent lead screening is required by law.

Q: **Why should I have my child screened for lead?**

A: Virtually all children in the U.S. are at risk for lead poisoning. As a result of industrialization, lead is widespread in the environment. Lead is harmful to the developing brain and nervous system of fetuses and young children. Children are more likely than adults to be exposed to lead because they have more hand-to-mouth activity than adults and because they absorb more lead than adults. Large numbers of U.S. children continue to have blood-lead levels in the toxic range. It is important for you to know if your child is one of them.

Q: **My child's blood-lead level is between 15 and 19 µg/dL. The doctor tells me to bring her back in a few months for another test. Isn't there anything else I could be doing?**

A: Your child's test showed that she had more lead in her blood than the average child in the U.S. If your child's level stays in this range for several months or goes up, you should have your home inspected in order to find any sources of lead. On the next page, you can learn about sources and pathways of lead exposure for children and how to prevent this exposure.

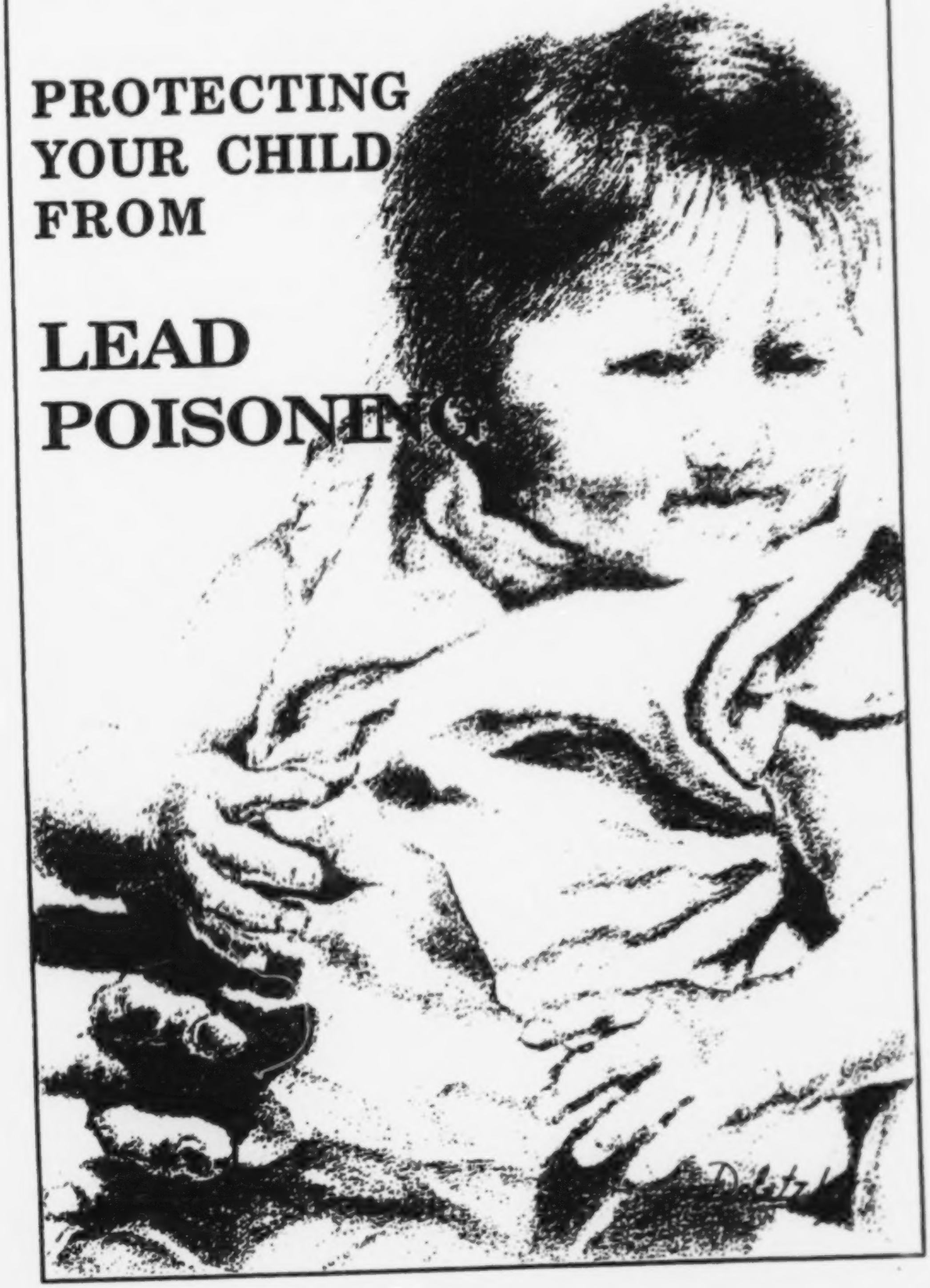
Q: **The doctor says my child's lead level is between 10 and 14 µg/dL. What does this mean? Has my child been damaged?**

A: Studies of the effects of lead on large groups of young children show that lead can be harmful at these blood levels. It is important to remember, however, that these effects are seen in studies of large groups of children, and do not mean that every child will have the same problems. To help your child grow up healthy and smart, make sure she or he receives the proper foods, adequate shelter, and plenty of love.

Lead poisoning
is a serious but preventable disease.
It mostly affects children
under the age of six.

PROTECTING YOUR CHILD FROM

LEAD POISONING



HOW IS LEAD HARMFUL TO CHILDREN?

- Lead poisoning can cause speech, hearing, learning, and behavior problems.
- Lead poisoned children may have problems paying attention, sitting still, or following directions.
- Children who have been lead poisoned are six times more likely to have reading problems and seven times more likely to be school drop-outs than other children.
- Untreated lead poisoning can permanently damage a child's blood, nerves, kidneys, and brain.

WHERE DOES LEAD COME FROM?

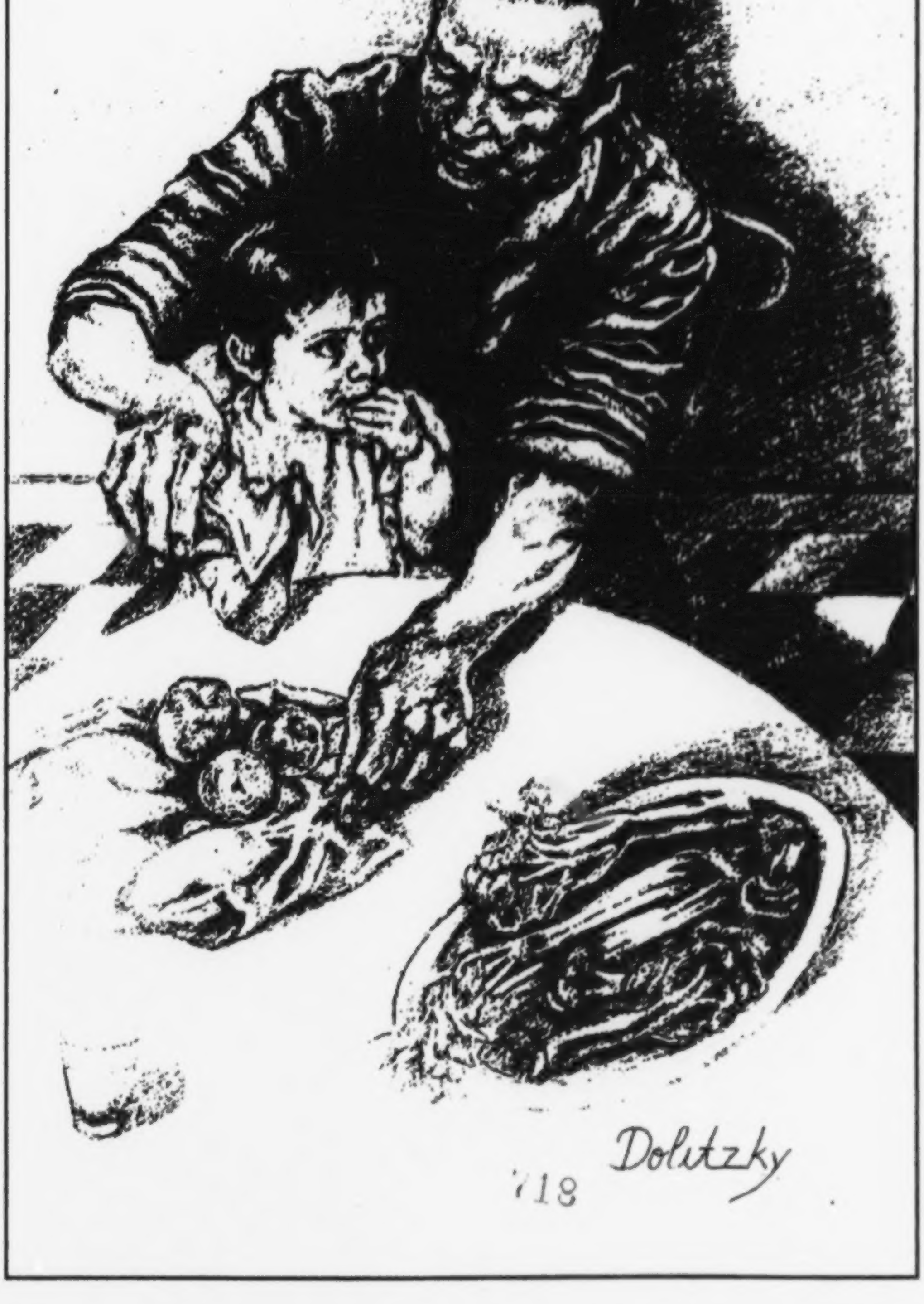
- Lead paint is the major source of lead that poisons children. Most houses built before 1978 used lead paint on the inside and outside of the house.
- Lead paint is most dangerous when chipping or peeling.
- Dust and dirt in and around these houses are also likely to contain dangerous amounts of lead.
- Lead contained in the water pipes of your home may get into your drinking water.

HOW DO CHILDREN GET LEAD POISONING?

- Most children are lead poisoned through their normal daily activities. Children play on the floor or in the yard and put their fingers and toys in their mouths.
- When there is lead dust or dirt on their fingers and toys, children can become lead poisoned.
- Some children get lead poisoning by eating paint chips.
- Some children are poisoned during home renovations or improper deleading.

HOW CAN I TELL IF MY CHILD HAS LEAD POISONING?

- Most times there are no signs or symptoms.
- The only way to be sure about lead poisoning is to HAVE A BLOOD TEST FOR YOUR CHILD.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WAYS TO PROTECT YOUR CHILD

GET YOUR CHILD TESTED!

- All it takes is a simple blood test.
- Call your doctor. If you do not have a doctor, call the Boston Childhood Lead Poisoning Prevention Program at 534-5966.
- Most children in Boston should be tested every six to twelve months, until they are 6 years old. Your doctor or neighborhood clinic will have a testing schedule.
- Ask your doctor to do a blood lead test, not just an EP test. According to the Centers for Disease Control guidelines, a direct blood lead test is the only way to detect the lower levels of lead now known to be harmful.

DO THE FOLLOWING:

- Wash your child's hands frequently. Keep your child's fingernails short and clean.
- Wash your children's toys frequently.
- Do not allow children to play near peeling paint.
- Do not allow children to play on bare soil. Call 534-5966 for soil testing information.
- Feed your child well-balanced low fat meals and snacks high in iron, calcium and vitamin C. Foods rich in iron are meat, peanut butter, and raisins. Foods rich in calcium are milk products and green vegetables. Foods rich in vitamin C are citrus fruits such as oranges. Call 534-5966 about WIC and other food programs.
- Feed your child regularly because lead is more easily absorbed on an empty stomach.
- Use only the cold water tap for drinking, cooking, or making baby formula. If the cold water tap has not been used for 4 hours, run the water for a few minutes until you feel a drop in temperature.

SAFETY TIPS FOR YOUR HOUSE

- Wet mop floors with TSP (tri-sodium phosphate) detergent. TSP is available in hardware stores. Wet wipe all dusty windows and other surfaces with TSP solution. (TSP, like all household cleaners, must be kept out of reach of children.)
- Patch holes in walls.
- Check for loose paint inside and outside the house.
- Do not sand or scrape painted surfaces.
- Call 534-5966 for guidelines to repair or renovate painted surfaces.

SPECIAL CARE FOR WINDOWS

Lead painted windows are very dangerous. The opening and closing of windows causes lead paint dust and chips to fall into the window wells and onto the window sills. Therefore, the following safety steps are necessary and should be followed whenever possible:

- Use TSP solution twice a week to wipe down window wells and window sills.
- If possible, open windows from the top. Keeping the bottom window closed helps prevent children from being exposed to lead particles that collect in the window well.
- If there is loose paint on the window sills or window wells, cover them with contact paper. Do not sand or scrape.
- If your windows have a lot of peeling or chipping paint, call 534-5966 for assistance.

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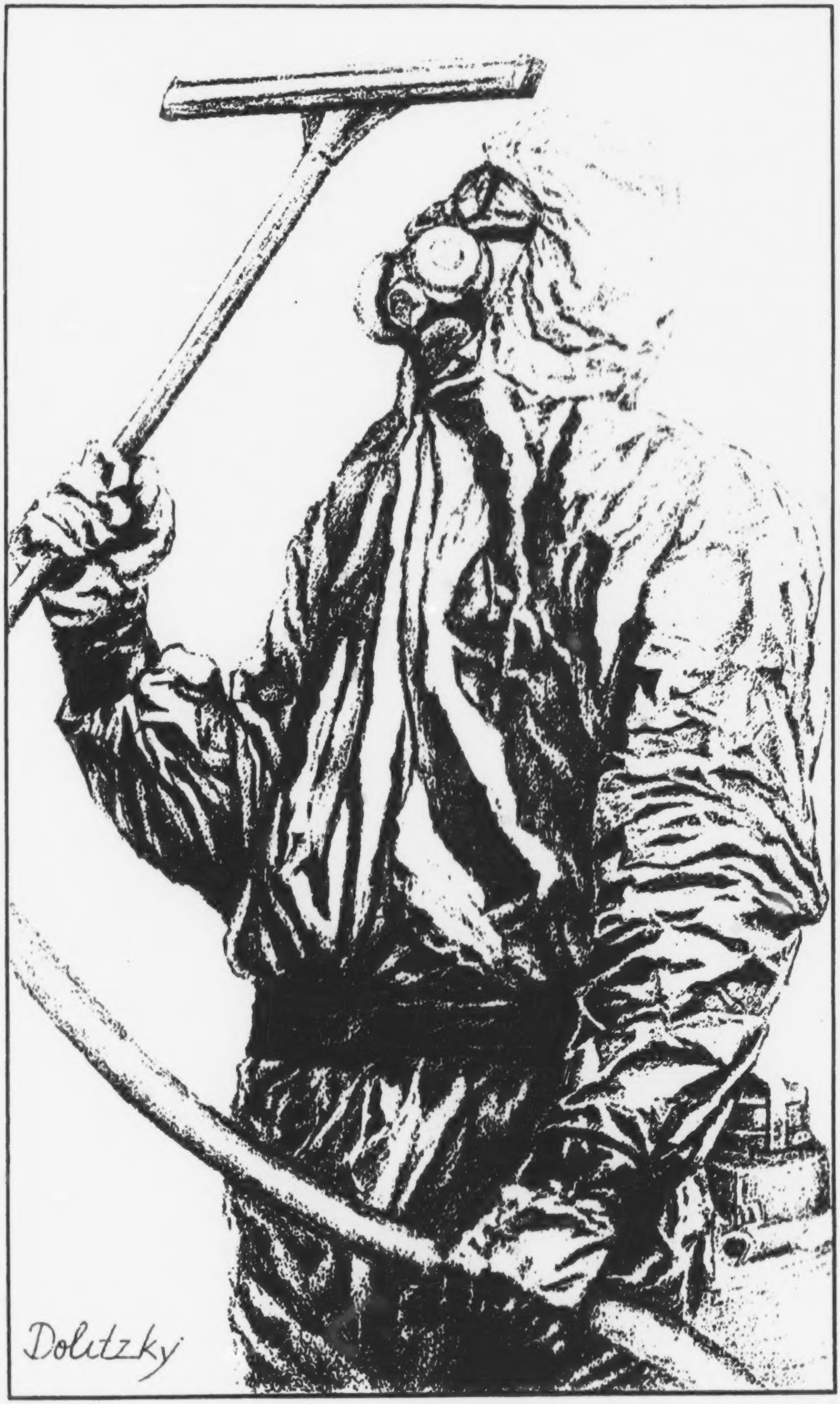
DELEADING DO'S AND DON'TS:

- Do not remove lead paint by yourself.
- Deleading work is very dangerous. It creates poisonous lead dust and fumes. Deleading work must only be done by a properly licensed deleading contractor.
- Unless done properly, deleading can easily cause serious cases of lead poisoning for the worker and anyone living in the house. Do not allow children near the work area.
- The family must move to a temporary home and not return home, even at night, until the deleading work and a full clean-up are completed.
- All belongings must be packed up and protected.
- The family can return home only after a licensed lead paint inspector has OK'd the unit. To be safe, you may want to ask the inspector to take dust samples after the final clean-up.
- Call 534-5966 to receive a copy of *Getting Ready For Deleading*.

HOW CAN I GET MY HOUSE OR APARTMENT TESTED FOR LEAD PAINT?

- Landlords and home owners must hire a licensed lead paint inspector to test any home where a child under 6 lives.
- To hire a private lead paint inspector, look in the Yellow Pages under Lead Paint Detection or call 534-5966 for a list of licensed lead paint inspectors.
- Tenants and home owners can send samples of paint chips to the Boston Childhood Lead Poisoning Prevention Program for free testing. For more information call 534-5966.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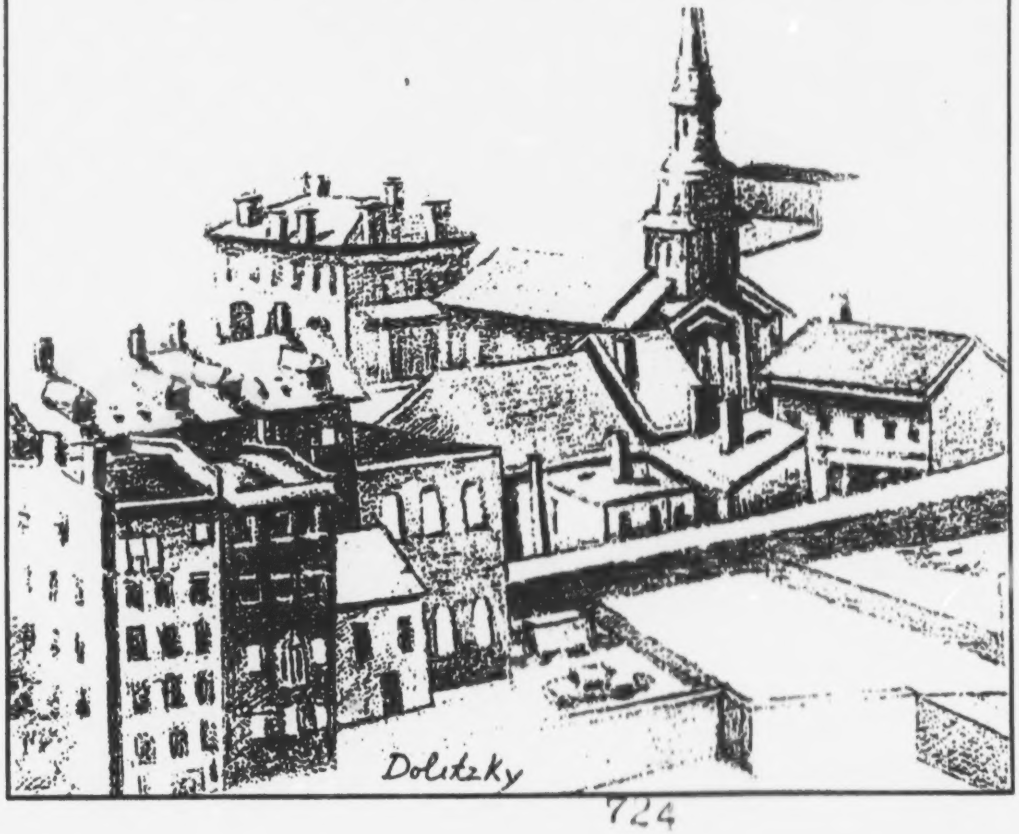
THE LEAD LAW AND YOU

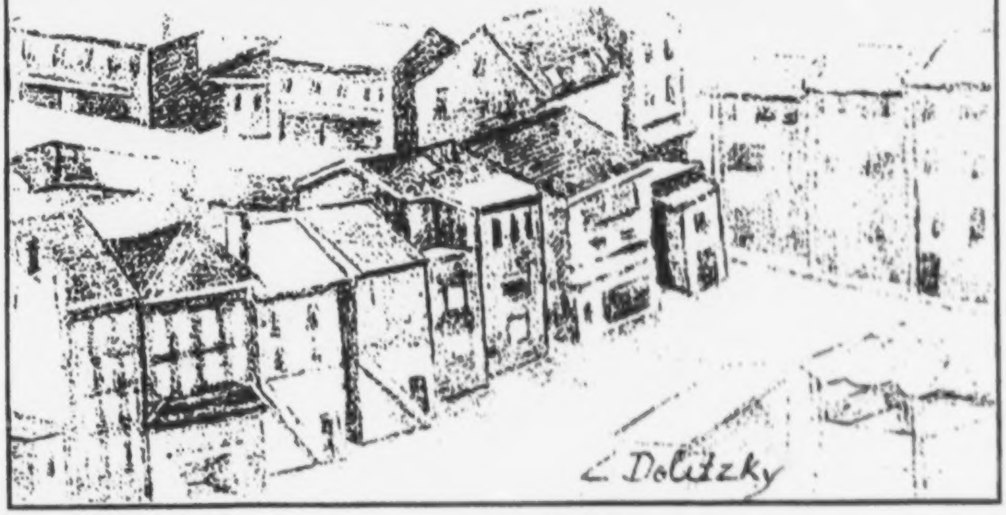
FOR PEOPLE WHO RENT:

- If you rent and have a child under 6 living with you, your landlord is required by Massachusetts state law to have lead paint removed from your home.
- Your landlord must hire a licensed lead paint inspector to inspect your home for lead paint violations.
- Your landlord must hire a licensed deleading contractor - a lead paint remover - to correct any lead paint violations that the inspector found.
- Your landlord should help you find a place to live while your home is being deleaded.
- Your landlord may not evict you, harass you, or deny you a lease because of lead paint.
- If you have questions about your legal rights, call the Greater Boston Legal Services at 357-5757 x3998.



FOR PEOPLE WHO OWN:

- Owners are required by law to have a licensed deleading contractor remove lead paint, if a child under 6 years old lives in the apartment or house. Owners cannot remove the lead by themselves.
- Owners should make arrangements with tenants to live somewhere else while the deleading work is being done.
- Owners who pay for lead paint removal are eligible for a state income tax credit. To obtain the tax credit, the owner must have the lead paint inspector, who approves the deleading work and the final clean-up of the unit, fill out and sign Form CLP. The owner must then file a Schedule LP. For more information and copies of the tax forms, call 534-5966.
- The Massachusetts Housing Finance Agency (MHFA) has low and moderate income loans to assist owners with the cost of removing lead paint. Call 451-2766 for more information.
- To receive lists of licensed lead paint inspectors and licensed deleading contractors, call 534-5966.
- If you would like to become a licensed deleading contractor, call 534-5966 for training and licensing information.



BOSTON CHILDHOOD LEAD POISONING PREVENTION PROGRAM
1010 Massachusetts Avenue, 2nd floor
Boston, MA 02118

FOR MORE INFORMATION CALL:

Public Information Officer
Boston Childhood Lead Poisoning
Prevention Program
534-5966

City of Boston
Department of Health & Hospitals
Division of Public Health
Office of Environmental Affairs

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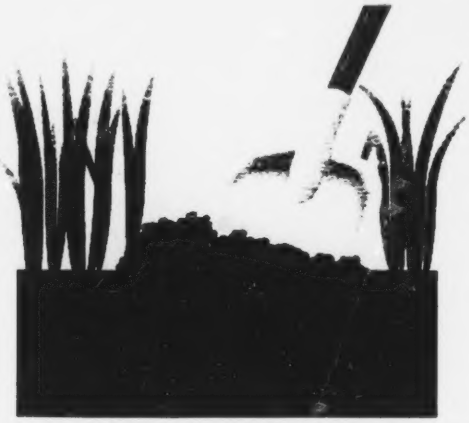
LDHOOD
D POISONING
PREVENTION
PROGRAM

LEAD *in soil*



WHY IS LEAD IN SOIL?

Almost all of lead in soil comes from lead-based paint chips flaking from homes, factory pollution, and from the use of leaded gasoline. Over time, lead builds up in soil. Lead levels in soil are usually higher in cities, near roadways and industries that use lead, and next to homes where crumbling lead paint has fallen into the soil.

HOW MUCH IS TOO MUCH?

The danger of the lead in soil depends on:

- the amount of lead in the soil around your house...
- and the amount of soil that gets into your child.

The amount of lead in soil is measured in **p**arts **p**er **m**illion (**ppm**). The greater the amount of lead in soil, the higher the ppm number. Soil naturally has small amounts of lead in it, about 50 ppm. 200-500 ppm of lead is commonly found in city soil. 1,000 ppm is a high amount of lead in soil, and is defined as *hazardous waste.*

HOW DOES LEAD GET FROM THE SOIL INTO MY CHILD?

Lead in dirt clings to fingers, toys and other objects that children normally put in their mouths. This is the most common way that lead in soil gets into your child. Lead in soil does not pass through unbroken skin. If soil is covered with plants, rocks or other ground cover, children have less contact with the dirt and the lead in it. The more lead that is in your soil, the more harmful the soil can be to your children's health.

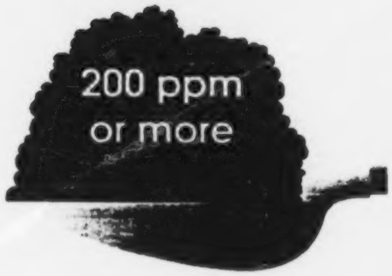
TESTING YOUR SOIL FOR LEAD

Areas in your yard where your children normally play should be the first to be tested. Soil in other areas such as near the outside of your house or garage, or near a street, may also contain lead. These areas pose less danger if your children do not spend much time in or around them.

- *Select area(s) to sample.*
- *Scrape dirt from the top 1/2 inch of each area you have picked with a clean trowel or spoon.*
- *Collect about 1 cup of dirt and place it in a clean, ordinary plastic bag. Any plants or grass that is growing in your sample should be cut out with scissors rather than pulled out. Plant roots may stay in the sample.*
- *Send the sample to a testing laboratory certified by the California Department of Health Services.*

To get a list of certified laboratories, call your local health department.

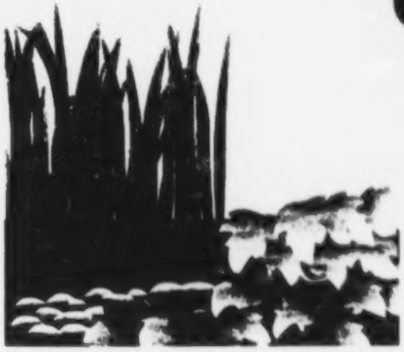
CAN I PROTECT MY CHILD FROM LEAD IN SOIL?



IF the amount of lead in your soil is 200 ppm or over, and...

IF the soil is not covered with many plants or thick ground cover...

THEN you should consider one or more of the following suggestions to make your soil safer.



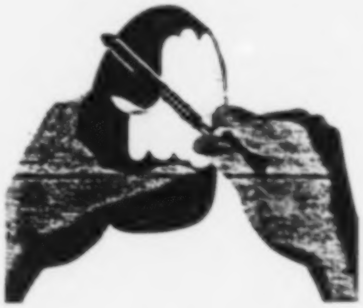
- Prevent nearby sources of lead from contaminating soil, for example, control peeling housepaint. Call your local health department for appropriate methods.
- Plant and maintain grass or other thick ground cover.
- Cover the soil with a thick layer of gravel, wood chips, or other materials.
- Pave the area.
- If you have no other alternatives, remove the top 3 to 6 inches of soil and replace with uncontaminated soil. **CAUTION: Soil with lead levels of 1,000 ppm or more is considered hazardous waste by the California Department of Health Services. Before you move soil, call your local health department.**

WILL LEAD IN SOIL GET INTO THE VEGETABLES IN MY GARDEN?

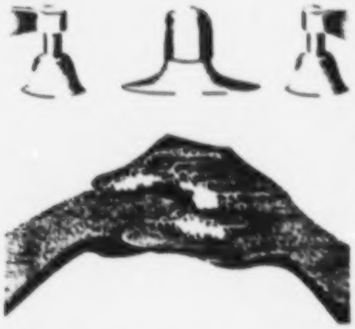
In general, vegetables that are grown in soil containing lead do not absorb much lead. Soil with lead is more dangerous to children who play in it than to children who eat vegetables grown in it. However, here are some ways you can reduce the amount of lead absorbed into vegetables:

- Add compost or lime to the soil.
- Plant fruiting or leafy vegetables, such as lettuce or tomatoes, because they take in less lead than potatoes, carrots, turnips and other root crops.

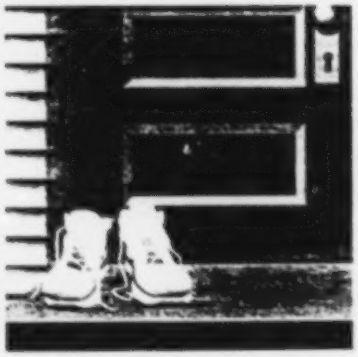
Dust contaminated with lead settles on garden plants. Vegetables should be washed with vinegar and water, or peeled. The outer leaves may also be thrown away.



OTHER HEALTH TIPS:



Wash children's hands before eating.



Have all family members and guests take off their shoes before entering the house so that lead dust from soil will not get inside.

Meals should be nutritious and include fruits and vegetables, calcium-rich foods, like milk, and iron-rich foods, like meat, and iron-fortified cereals.

■ TESTING YOUR CHILDREN

Children aged 9 months through 5 years are at the greatest risk for lead poisoning. Most children with lead poisoning do not look or act sick. Ask your doctor to perform a blood lead test on your children. This is the only way to know if they are being lead poisoned. Your doctor should explain the results of the test to you. Most children will have a test result below 10 µg/dL. If you or your doctor need more information about lead poisoning, call the local health department.

If you have Medi-Cal, your regular doctor or clinic can order the blood tests to check for lead poisoning, if appropriate. Many private health insurance policies will also cover the cost of this test. Whether or not your family has insurance, your children may qualify for free health examinations through your local Child Health and Disability Prevention (CHDP) program. To find out if your child is eligible for CHDP testing, call your local health department.

For more information about lead in soil, and making your garden safer, call your local health department.

General Information

Massachusettts Department of Public Health
Childhood Lead Poisoning Prevention Program
305 South Street
Jamaica Plain, MA 02130
1-800-532-9571 (toll-free)

Commonwealth of Massachusetts
Department of Public Health
Childhood Lead Poisoning
Prevention Program

Michael S. Dukakis
Governor

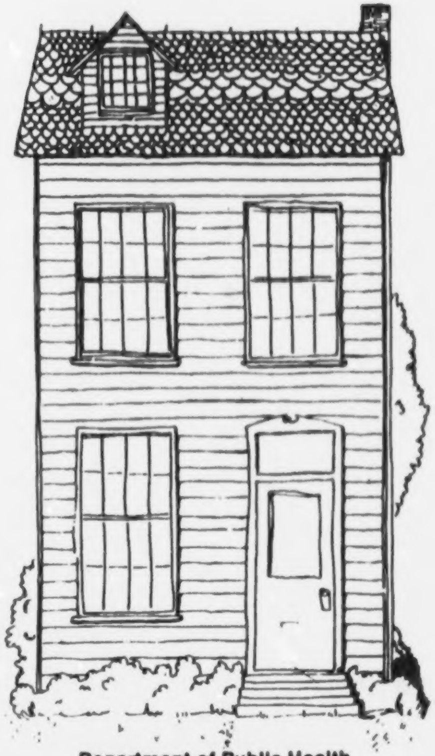
Philip W. Johnston
Secretary of Human Services

Bailus Walker, Jr., Ph.D., M.P.H.
Commissioner of Public Health

Edward V. Cosgrove, Ph.D.
Director of CLPPP

June 1986

What Is the Massachusetts Lead Law and How Does It Work?



Department of Public Health
Childhood Lead Poisoning
Prevention Program

The Massachusetts Lead Law

In 1971, Massachusetts General Laws (MGL) Chapter 111, Sections 190-199 created the Childhood Lead Poisoning Prevention Program (CLPPP). Working within the Massachusetts Department of Public Health, the CLPPP shares responsibility with the local boards of health for administering the Lead Law.

The Massachusetts Lead Law forbids the use of lead-based paint or glaze on inside or outside surfaces of any dwelling, fixtures, furniture, toys, or cooking, eating or drinking utensils.

The law also forbids selling or giving away of any toys, furniture, or utensils that are covered or decorated with lead-based paint or glaze.

How Does the Law Work?

Program staff analyze blood and paint samples for lead, inspect buildings for lead paint, and enforce the removal of lead hazards from the homes of children less than six years old. The staff also provides case management services for lead-poisoned children, making sure that they get the medical treatment they need.

Parents of children under six, day care providers, and property owners may request a lead-paint inspection. CLPPP inspectors give first priority for inspection to the homes of lead-poisoned children. If the inspector finds a lead paint violation, the property owner must correct it in compliance with the Lead Law.

Additional Information

The Childhood Lead Poisoning Prevention Program provides information free on request.

Lead Poisoning: Facts and Guidelines (brochure) Describes the causes, effects, risk factors, detection methods, and treatment of lead poisoning. Includes prevention tips and safety guidelines for removing lead paint.

Deleader's Manual: A Handbook for Safe Lead Paint Removal
Explains relevant sections of the Massachusetts Lead Law and Regulations for deleading contractors. Describes safe methods for removing residential lead paint hazards.

Lead Advisory (handout)
Condensed from the **Deleader's Manual.** Lists safety precautions for lead paint removal and owners', occupants', and contractors' responsibilities.

There are also posters, slides, tapes, and other educational materials.

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What are the Legal Responsibilities of Property Owners?

The property owner must **safely remove** or **permanently cover** lead paint in any house or apartment where a child under six lives or will live if the paint is on a **chewable surface** or is cracking, flaking or peeling. The lead paint must be completely removed down to the wood, metal, plaster or other base material.

Chewable surfaces are parts of the house up to four feet from the ground or floor and up to four inches back from any edge. Chewable surfaces include: window sills, doors, door frames, baseboards, stair rails, spindles, stair treads from the lip to the riser on the bottom and four inches back from the lip on the top of the tread, porch railings, and other inside and outside surfaces or fixtures.

Permanently cover means to enclose or cover a surface (such as a wall) or fixture (such as a railing or pipe). Building a box around the pipe will permanently cover a lead hazard. Contact paper will not. Painting over the lead-based paint on chewable or peeling surfaces with non-lead paint does not satisfy the law.

Safely means using proper methods and precautions. If paint removal is not done properly, the lead dust, fumes and scrapings can cause lead poisoning. Lead poisoning is especially tragic when children are poisoned by efforts to remove lead-based paint.

Safety Guidelines

The Childhood Lead Poisoning Prevention Program has safety guidelines for lead paint removal. Safety guidelines include:

- evacuating all children, pregnant or nursing women, and pets
- removing or draping and sealing the occupants' belongings to protect them from dust and chips
- using drop cloths inside and out to protect floors and soil from dust and debris
- protecting workers with appropriate respirators and protective clothing
- ensuring adequate ventilation
- ensuring proper clean-up and disposal of dust and debris.

Can a Landlord be Held Liable for a Lead-Poisoned Child?

Yes. The landlord or homeowner is legally responsible if a child is poisoned. A landlord cannot avoid liability by asking tenants to sign an agreement that they accept the presence of lead paint.

Property owners may be fined up to $500 per day for violation of the law. Triple damages can be collected from an owner who, if notified of violations, does not correct them.

What are a Tenant's Rights and Remedies?

The following is a summary only. Always talk to a lawyer before taking action.

The property owner may not increase the rent or evict tenants because they request an inspection or report a violation, or because the owner is required to remove lead paint hazards to bring the dwelling up to state sanitary code standards. (M.G.L.c. 186, s18)

If the property owner does not correct the violation by the seventh day after notification of the violation, the tenant may use up to four months' rent to correct the violation. (M.G.L.c. 111, s127L)

The tenant or the Childhood Lead Poisoning Prevention Program may ask the District Court to appoint a receiver to use the rent money to correct the violation. (M.G.L.c. 111, ss127C to 127J)

Until the lead violation is corrected, the tenant may defend nonpayment of rent because the violation reduces the fair value of the apartment. (M.G.L.c. 239, s8A)

A landlord cannot refuse to rent to a family because of lead hazards. If that has happened to you, you can file a complaint with:

727-3990	Massachusetts Commission Against Discrimination (MCAD)
565-5327	Department of Housing and Urban Development (HUD) Fair Housing Office

How Does the Law Affect Home Buyers?

Although the CLPPP and local boards of health are not required to do inspections for property transfers, the law requires a property buyer to remove lead paint if a child under six lives or will live in the property. The property transfer requirement encourages the deleading of property when it is vacant, which is the safest time to delead.

Home buyers who hire a private inspector should get a contract that guarantees that the inspection will conform to state regulations. The contract should state that:

- the inspector will properly fill out a diagrammatic floor plan
- all door, wall, and window parts will be tested and listed separately
- inside and outside parts will be tested and listed separately
- the cost of the inspection includes retesting of each part where lead paint was found and removed.

TITLE:	Home Source of Lead Poisoning
SOURCE:	Copy at will
USED FOR:	These sheets are stuffed in doors of people who are not found at home by our out reach workers. They are also put in bags at community programs that have a sale of items such as a bake sale, old clothes sale, etc. A quick way to begin promulgating a program.
COMMENTS:	Out-Reach Worker says it has frightened some people and caused over concern at times, and it does make people call with questions. There is enough response to warrant use to promote free evaluations of risk hazards.

Your home may be a source of

LEAD POISONING

for
children under 6 years of age
and pregnant women.
Bring your child to the
Lynchburg Health Department
any Wednesday Afternoon 1:30 – 4:00 P.M.
or
call 947-2328 for another time.
This test is
FREE
for everyone.
People can feel fine
and still have lead poisoning.
Don't wait until your children
get sick or develop serious
behavior and/or learning problems . . .
GET YOUR FREE
SCREENING TEST TODAY!

TITLE: Lets Get Rid of Lead
(Bumper Sticker)

SOURCE: Copy at Will

COMMENTS: Only recently being used. Do not have information as yet about acceptability or feed-back.

USE: It is offered to anyone who will use them at any lead-information presentation

---

TITLE: Mailing Insert

SOURCE: Personalize and Copy for your Program

COMMENTS: MD= This community (at the time this was designed) included it with their water bills and sent out about 20,000. (When used, we received about 150 calls about lead.) Cost effective.

Let's get rid of lead!

CLIP
Childhood Lead-poisoning Intervention Program

Lead poisoning is occurring in the City of Lynchburg. The following individuals are particularly susceptible to lead:

- Children 0 - 6 years of age
- Pregnant women
- Industrial workers who use lead, and people who use lead in hobbies

Poisoning occurs primarily from chipping and peeling paint, leaded soil and dust, and some food containers. The water supplied to houses in the city system is free of lead but can be contaminated by lead in the homes.

Free Lead Screening is available to all.

If you are concerned or interested in this problem, call the Lynchburg Health Department, 947-2328 for further information.

clean up t[illegible]ghly. Don't try to remove lead paint your[illegible]

- ✓ All occupants, especially children and pregnant women, should leave the building until all work is finished *and a thorough cleanup is done.*

5. Don't bring lead dust into your home.

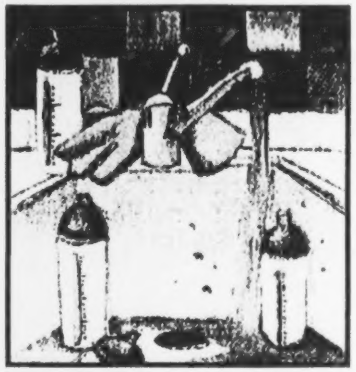
If you work in construction, demolition or painting, with batteries, or in a radiator repair shop or lead factory, or if your hobby involves lead, you may unknowingly bring lead into your home on your hands or clothes. You may also be tracking in lead from the soil around your home. Soil very close to homes may be contaminated from lead paint on the outside of the building. Soil by roads or highways may be contaminated from years of exhaust fumes from cars and trucks that used leaded gas.

- ✓ If you work with lead in your job or a hobby, change your clothes before you go home.
- ✓ Encourage your children to play in sand or grassy areas instead of dirt which sticks to fingers and toys. Try to keep your children from eating dirt, and make sure they wash their hands when they come inside.

6. Get lead out of your drinking water.

Most well or city water does not naturally contain lead. Water usually picks up lead *inside your home* from household plumbing that is made with lead materials. Boiling the water will not reduce the amount of lead. Bathing is not a problem because lead does not enter the body through the skin.

- ✓ *The only way to know if you have lead in your water is to have it tested.* Call your local health department or your [illegible] supplier to see how to get it tested. Testi[illegible]our water is easy and cheap ($15-$25).
- ✓ Household water will contain more lead if it has sat for a long time in the pipes, is hot, or is naturally acidic.
- ✓ If your water has not been tested or has high levels of lead:
  1) do not drink, cook, or make baby formula with water from the hot water tap.



  2) if the cold water hasn't been used for more than two hours, run it for 30 to 60 seconds before drinking it or using it for cooking.
  3) consider buying a filter certified for lead removal. Call EPA's Safe Drinking Water Hotline for more information.

7. Eat right.

A child who gets enough iron and calcium will absorb less lead. Foods rich in iron include eggs, lean red meat, and beans. Dairy products are high in calcium.

- ✓ Don't *store* food or liquid in lead crystal glassware or imported or old pottery.
- ✓ If you reuse plastic bags to store or carry food, keep the printing on the outside of the bag.

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EPA
United States
Environmental
Protection Agency

[illegible]00 B 92 0002
[illegible]ptember 1992

Lead Poisoning And Your Children

5 Don't bring lead dust into your home from work or a hobby.

6 Have your water tested. If the cold water hasn't been used for more than 2 hours, let it run for 30-60 seconds before drinking it or using it for cooking.

7 Eat right and don't store food in high-lead pottery.

Lead poisoning is a serious problem for young children—the younger the child, the greater the risk.

For More Information

EPA's Safe Drinking Water Hotline
(for information on laboratories certified to test for lead in water and for filter information)
1-800-426-4791

National Lead Information Center
(funded by the Environmental Protection Agency, Centers for Disease Control, Dept. of Housing and Urban Development, and Dept. of Defense)
1-800-LEADFYI

for local information, contact:

United States Environmental Protection Agency ● Office of Pollution Prevention and Toxics ● Office of Ground Water and Drinking Water

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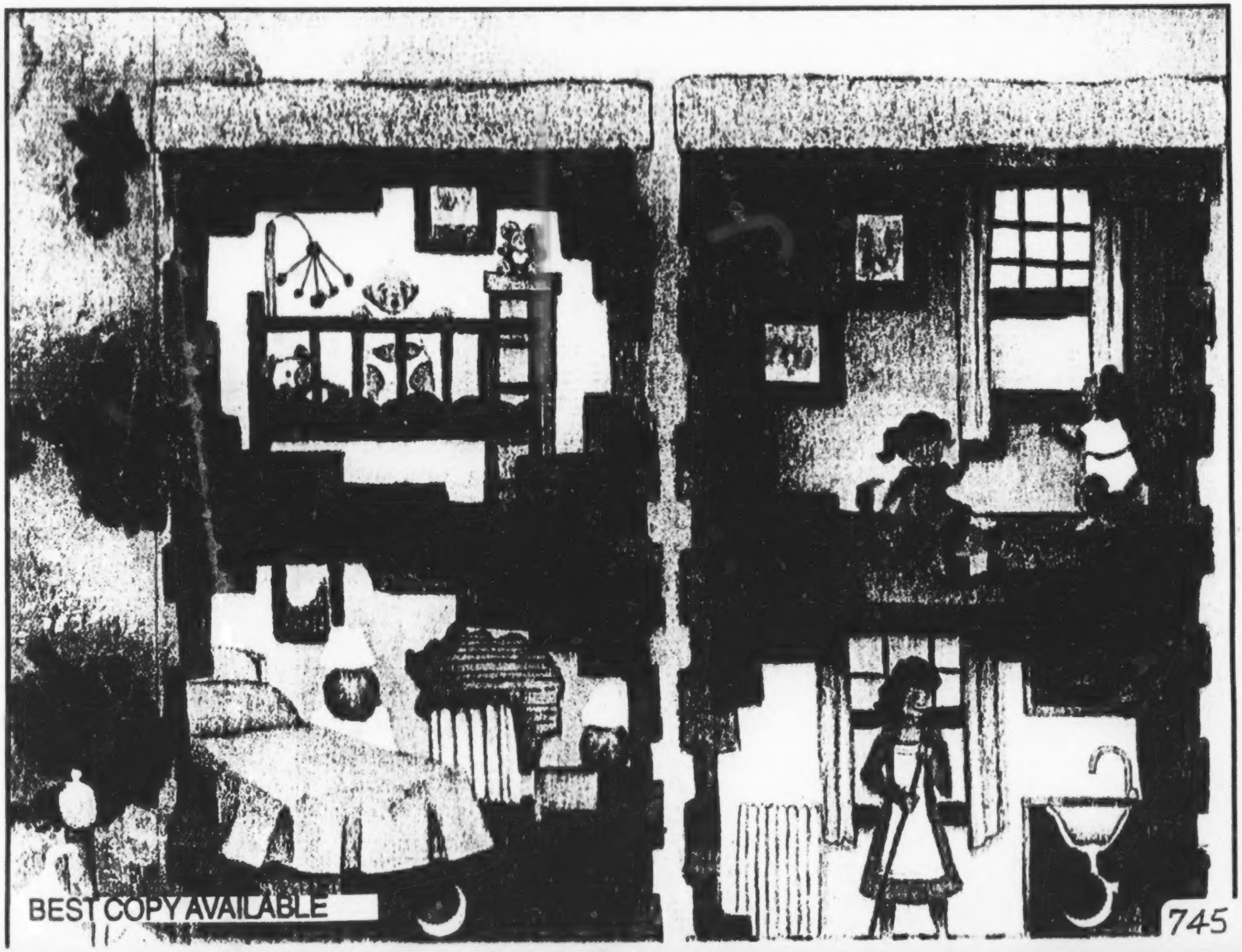
Protect Your Children From Lead Poisoning

1. Get your child tested for lead poisoning, even if he or she seems healthy.

2. Clean floors and window sills with a solution of powdered dishwasher detergent and water. Most multi-purpose cleaners will not remove lead in ordinary dust.

3. Reduce the risk of lead paint. Make sure your child is not chewing on anything covered with lead paint.

4. D[illegible]'t try to remove lead paint



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Lead aw[illegible]ss and your children

About one in six children in America have high levels of lead in their blood, according to the Agency for Toxic Substances and Disease Registry. You may have lead around your building without knowing it because *you can't see, taste, or smell lead.* You may have lead in the dust, paint, or soil in and around your home, or in your drinking water or food. Because it does not break down naturally, lead can remain a problem until it is removed.

Before we knew how harmful it could be, lead was used in paint, gasoline, water pipes, and many other products. Now that we know the dangers of lead, house paint is almost lead-free, leaded gasoline is being phased out, and household plumbing is no longer made with lead materials.

How lead affects your child's health

The long term effects of lead in a child can be severe. They include learning disabilities, decreased growth, hyperactivity, impaired hearing, and even brain damage. If caught early, these effects can be limited by reducing exposure to lead or by medical treatment. If you are pregnant, avoid exposing yourself to lead. Lead can pass through your body to your baby. The good news is that there are simple things you can do to help protect your family.

1. Get your child tested.

Even children who appear healthy may have high levels of lead. You can't tell if a child has lead poisoning unless you have him or her tested. A blood test takes only ten minutes, and results should be ready within a week.

The Centers for Disease Control recommend that children be tested for the first time when they are a year old, or at six months if you think your home has lead in it or if you live in an older building.

- ✓ Children older than one year should have a blood test every couple of years—*every* year if your house or apartment contains lead paint, or if you use lead in your job or hobby.
- ✓ To find out where to have your child tested, call your doctor or local health clinic.

2. Keep it clean.

Ordinary dust and dirt may contain lead. Children can swallow lead or breathe lead contaminated dust if they play in dust or dirt and then put their fingers or toys in their mouths, or if they eat without washing their hands first.

- ✓ Keep the areas where your children play as dust-free and clean as possible.
- ✓ Wash pacifiers and bottles after they fall on the floor. Keep extras handy.
- ✓ Mop floors and wipe window ledges and chewable surfaces such as cribs with a solution of powdered automatic dishwasher detergent in warm water. Do this twice each week. Wear gloves to avoid possible skin irritation. (Dishwasher detergents are recommended because of their high-phosphate content. Most multi-purpose cleaners do not contain phosphates and are n[illegible]ective in cleaning lead dust.)
- ✓ Wash toys and stuffed animals regularly.
- ✓ Make sure your children wash their hands before meals, nap time, and bed time.

3. Reduce the risk from lead paint.

Most homes built before 1960 contain heavily leaded paint. Some homes built as recently as 1978 may also contain lead paint. This paint could be on window frames, walls, the outside of your house, or other surfaces. Tiny pieces of peeling or chipping lead paint are dangerous if eaten. Lead paint in good condition is not usually a problem except in places where painted surfaces rub against each other and create dust. (For example, when you open a window, the painted surfaces rub against each other.)

- ✓ *Make sure your child does not chew on anything covered with lead paint, such as painted window sills, cribs, or playpens.*
- ✓ Don't burn painted wood. It may contain lead.

4. Don't remove lead paint yourself.

Families have been poisoned by *scraping or sanding lead paint* because these activities generate large amounts of lead dust. Lead dust from repairs or renovations of older buildings can remain in the building long after the work is completed. Heating lead paint may release lead into the air.

- ✓ Ask your local or state health department if they will test your home for lead paint. Some will test for free. Home test kits *cannot* detect small amounts of lead under some conditions.
- ✓ Hire a person with special training for correcting lead paint problems to remove lead paint from your home, someone who knows how to do this work safely and has the proper equipment to

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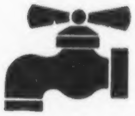
ERIE COUNTY DEPARTMENT OF HEALTH
PUBLIC HEALTH CAMPAIGN

LEARNING

Lead Dust
in the home . . .

Pottery or
ceramic dishware . . .

EVERYTHING

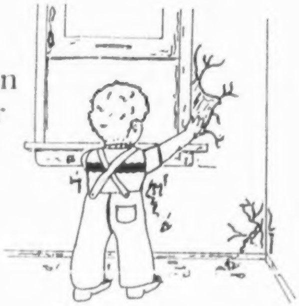


In the
Water . . .

on the job. . .

ABOUT ITS

In the Soil . . .



Lead Paint chips on
Interior or Exterior
of home . . .

DANGERS

Children with LEAD Poisoning
usually show no symptoms

For More Information Regarding LEAD Screening
Contact Your Private Physician or Erie County
LEAD Prevention Program

885-0800

DENNIS T. GORSKI
County Executive

ARNOLD N. LUBIN, M.D.
Commissioner of Health

[illegible]

[illegible]

कुछ ऐसे प्रश्न जो
समझदार लोग पूछते हैं।

"हमारे लिये सुरमा मां ने भेजा था। वह मेरे बच्चों को विष तो नहीं देगी न। निश्चय ही यह सुरक्षित है?"

-शायद आपकी मां को यह मालूम न हो कि सुरमे में सीसा मिला हो सकता है।

"हमारा सुरमा सीधे पवित्र पहाड़ से आता है। निश्चय ही यह पवित्र है?"

-यदि यह सीसा है, तो यह धरती से निकालते समय ही सुरमे में शामिल होता है।

"सुरमे का प्रयोग पीढ़ियों से हो रहा है। निश्चय ही यह सुरक्षित है?"

-आज के सुरमे हो सकता है वही हों, जो पहले इस्तेमाल होते थे या वे नए मिश्रण हो सकते हैं। तब भी कई सुरमों में सीसा होता है।

"मैं अपने बच्चों की आंखों में सुरमे का प्रयोग करती रही हूं और उनकी आंखें स्वस्थ लगती हैं।"

-क्योंकि सीसे का विष धीमे काम करता है, आपको पता नहीं चलता। आपको चाहिये कि अपने सुरमे की जांच करवा लें।

"क्या सुरमे से आंखें साफ नहीं होतीं और नेत्र ज्योति नहीं बढ़ती?"

-यदि आपको बच्चों की आंखें साफ चाहियें, तो उस के लिए नेत्र बिन्दु (eyedrops) ज्यादा सुरक्षित हैं। सुरमे से आंखों की ज्योति नहीं बढ़ती।

"सुरमे से मेरे बच्चों की आंखें सुन्दर लगती हैं। इसके सिवा और क्या कुछ है?"

-यू.के. में किसी भी बड़े स्टोर से मिल सकने वाला सौन्दर्य प्रसाधन सुरक्षित होगा और उतना ही प्रभावी।

"लेकिन तब क्या किया जाए यदि सुरमे का प्रयोग धार्मिक कारणों से हो?"

-आपके धर्मनेताओं को चाहिए कि वे सीसे के खतरों को समझें। आप उनसे बातचीत करें।

"मुझे यह कैसे पता चले कि मेरे सुरमे में सीसा मिला है?"

आप इसे अपने स्थानीय पर्यावरण स्वास्थ्य अधिकारी (Environmental Health Officer) के पास ले जायें। आपका सामाजिक या धार्मिक नेता उसका पता ढूंढने में आपकी सहायता कर सकता है।

अपने बच्चों के स्वास्थ्य और जीवन की रक्षा करें। ध्यान रखें सुरमे में सीसा न मिला हो।

[illegible]

the gift that can be dangerous

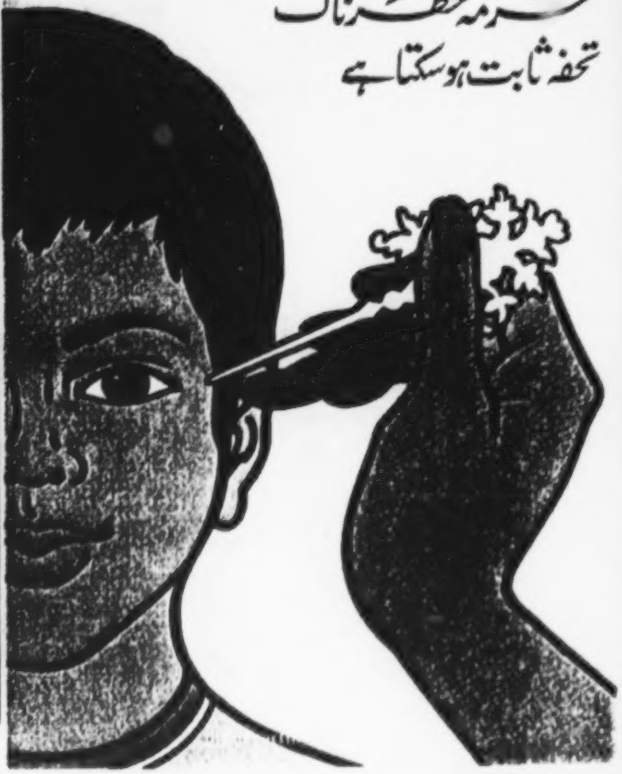
સુરમો-ભેટ જે જોખમી થઇ પડે છે

সুর্মা – এই উপহার বিপজ্জনক হতে পারে

सुरमा - उपहार जो खतरनाक सिद्ध हो सकता है।

ਸੁਰਮਾ,—ਉਹ ਤੋਹਫ਼ਾ ਜੋ ਖਤਰਨਾਕ ਹੋ ਸਕਦਾ ਹੈ।

سُرمہ خطرناک
تحفہ ثابت ہوسکتا ہے



Prepared for the Department of Trade and Industry in co-operation with the Department of Health and the Central Office of Information. Reprinted 1991
Printed in the UK for HMSO. [illegible]

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"Of course my children are healthy. Surma's not poisonous, is it?"

Some surma is safe – but some is dangerous because it contains lead, and lead is a poison.

Surma makes children's eyes sting. Once they rub their eyes it is soon on their fingers, then in their mouths. When there is lead in the surma, they will be swallowing poison.

Lead poisoning is very slow, but it can harm the developing child's brain. It can even kill.

Give your children good health – make sure your surma is lead-free.

"જરૂર મારા બચ્ચાંઓ તંદુરસ્ત છે. સુરમા ઝેરી તો નથી ?"

કોઈક સુરમાં ઝેરી નથી – પણ કોઈક ઝેરી છે કારણ કે તેમાં સીસું છે અને સીસું ઝેર છે.

સુરમાથી બચ્ચાંઓની આંખોમાં ચચરાટ થાય જેવો તેઓ આંખને ચોળે ત્યારે સીસું આંગળા પર આવે છે ને તે પછી આંગળાંમાંથી મોઢામાં જાય. જો સુરમામાં સીસું હોય તો પછી બચ્ચાંઓ આ ઝેર ગળી જાય છે.

સીસુંના ઝેરની અસર ઘણી ધીમી હોય છે પણ ઉછરતાં બચ્ચાંના મગજને નુકસાન કરે છે ને મારી નાખે છે. તમારા બચ્ચાંઓને સારી તંદુરસ્તી આપો – ખાત્રી કરો કે સુરમામાં સીસું નથી.

[illegible]

কোনো কোনো সুর্মা নিরাপদ কিন্তু যেগুলির মধ্যে সীসে থাকে সেগুলি বিপজ্জনক, কারন সীসে হলো বিষ।

সুর্মাতে শিশুদের চোখ জ্বালা করে। তারা যেই চোখ রগড়াবে অমনি তাদের হাতে ওটা লেগে যাবে, তারপর হাত থেকে তাদের মুখেও যাবে। সুর্মায় সীসে থাকলে ওরা বিষ গিলবে।

সীসের বিষটা খুব ধীরে ধীরে কাজ করে, কিন্তু ওটা বাড়ন্ত শিশুর মস্তিষ্কের ক্ষতি করতে পারে। এমনকি ওকে মৃত্যুও ঘটাতে পারে।

আপনার সন্তানদের স্বাস্থ্য নিরাপদ রাখুন- আপনার সুর্মাতে যে সীসে নেই, সে বিষয়ে নিশ্চিত হোন।

"मेरे बच्चे एकदम स्वस्थ हैं। सुरमा विषयुक्त नहीं होता। होता है क्या?"

कोई सुरमा बिना हानि के भी होता है- लेकिन कोई खतरनाक भी क्योंकि इसमें सीसा होता है, और सीसा विष होता है।

सुरमे से बच्चों की आंखों में दर्द होने लगता है। एक बार वे अपनी आंखों को मलते हैं तो यह बहुत जल्द उनकी उंगलियों पर लग जाता है और फिर उनके मुंह में चला जाता है। जब सुरमे में सीसा होता है, तो वे इस तरह विष अपने अन्दर ले जाते हैं।

सीसे का विष बहुत धीरे काम करता है, लेकिन इससे विकास पा रहे बच्चे के दिमाग को हानि पहुंचती है। यह उसे मार भी सकता है।

अपने बच्चों को स्वस्थ रखें। ध्यान रखें आपका सुरमा सीसे से रिक्त हो।

"ਮੇਰੇ ਬੱਚੇ ਬਿਲਕੁਲ ਤੰਦਰੁਸਤ ਹਨ। ਸੁਰਮਾ [illegible] ਹੈ ?"

ਕੁਝ ਸੁਰਮੇ ਸੁਰੱਖਿਅਤ ਹਨ ਪਰ ਕੁਝ ਖਤਰਨਾਕ ਕਿਉਂਕਿ ਉਨ੍ਹਾਂ ਵਿਚ ਸਿੱਕਾ ਹੁੰਦਾ ਹੈ, ਅਤੇ ਸਿੱਕਾ ਵਿਚ ਜ਼ਹਿਰ ਹੈ।

ਸੁਰਮਾ ਲਾਉਣ ਤੇ ਬੱਚਿਆਂ ਦੀਆਂ ਅੱਖਾਂ ਵਿਚ ਜਲਨ ਪੈਂਦੀ ਹੈ। ਜਦ ਉਹ ਅੱਖਾਂ ਮਲਦੇ ਹਨ ਤਾਂ ਇਹ ਉਨ੍ਹਾਂ ਦੀਆਂ ਉਂਗਲਾਂ ਨੂੰ ਲਗ ਜਾਂਦਾ ਹੈ, ਤੇ ਫਿਰ ਉਨ੍ਹਾਂ ਦੇ ਮੂੰਹ ਵਿਚ ਚਲਾ ਜਾਂਦਾ ਹੈ। ਜੇ ਸੁਰਮੇ ਵਿਚ ਸਿੱਕਾ ਹੋਵੇ ਤਾਂ ਉਹ ਜ਼ਹਿਰ ਨਿਗਲ ਰਹੇ ਹਨ।

ਸਿੱਕੇ ਦਾ ਜ਼ਹਿਰ ਬਹੁਤ ਹੌਲੀ ਹੌਲੀ ਚੜ੍ਹਦਾ ਹੈ, ਪਰ ਇਹ ਵਧ ਰਹੇ ਬੱਚੇ ਦੇ ਦਿਮਾਗ ਨੂੰ ਨੁਕਸਾਨ ਪਹੁੰਚਾ ਸਕਦਾ ਹੈ। ਇਹ ਜਾਨ ਵੀ ਲੈ ਸਕਦਾ ਹੈ।

ਆਪਣੇ ਬੱਚਿਆਂ ਨੂੰ ਚੰਗੀ ਸਿਹਤ ਦਿਓ। ਇਹ ਨਿਸ਼ਚਿਤ ਕਰ ਲਓ ਕਿ ਤੁਹਾਡਾ ਸੁਰਮਾ ਸਿੱਕਾ ਰਹਿਤ ਹੈ।

"مجھے یقین ہے کہ میرے بچے بالکل صحت مند ہیں۔ سُرمہ زہریلا تھوڑی ہوتا ہے۔ نہیں ہوتا نا؟"

سُرمے کی کچھ قسمیں محفوظ ہوتی ہیں۔ لیکن کچھ خطرناک بھی ہوتی ہیں کیونکہ ان میں سیسہ (Lead) ملا ہوتا ہے۔ اور سیسہ زہر ہے۔

سُرمے سے بچوں کی آنکھوں میں جلن ہوتی ہے۔ اور جب وہ آنکھیں ملتے ہیں تو سیسہ ان کی انگلیوں پر لگ جاتا ہے اور پھر ان کے منہ میں پہنچ جاتا ہے۔ جب سُرمے میں سیسہ ملا ہوتا ہے تو وہ زہر نگل لیتے ہیں۔

سیسے کا زہر جسم میں دھیرے دھیرے پھیلتا ہے، لیکن اس سے بچے کے دماغ کی نشو و نما کو نقصان پہنچ سکتا ہے۔ حتیٰ کہ اس سے موت بھی واقع ہو سکتی ہے۔

اپنے بچوں کو صحت مند رکھئے۔ اور اچھی طرح یقین کر لیجئے کہ سُرمے میں سیسہ ملا ہوا نہ ہو۔

Some [illegible] questions that wise people ask

"Our surma was sent by my mother. She wouldn't poison my children. Surely it's safe?"

- Perhaps your mother does not know that surma can contain lead.

"Our surma comes directly from a holy mountain. Surely it's pure?"

- If there is lead, it is already in the surma when it comes out of the ground.

"Surma has been used for generations. Surely it's safe?"

- Today's surmas may be the same as those used in the past. Or they may be new mixtures. Still, many contain lead.

"I have been putting surma in my children's eyes and they look healthy."

- Because lead poisoning is slow, you can't be sure. Have your surma checked.

"Doesn't surma clear the eyes and improve the eyesight?"

- If your children's eyes need cleaning, eyedrops are safer. Surma will not improve the eyesight.

"Surma makes my children's eyes beautiful. What alternatives are there?"

- Any cosmetic available in major UK stores will be safe – and at least as effective.

"But what if surma is prescribed by my religion?"

- Your religious leaders should understand the dangers of using lead. Talk to them.

"How can I find out whether my surma does contain lead?"

- Simply take it to your local Environmental Health Officer. Your Community or Religious Leader can help you to find the address.

Protect the health and life of your children. Ensure your surma is lead-free.

چند سوالات جو [illegible] مند لوگ پوچھتے ہیں :

[illegible]

"میں کیسے معلوم کر سکتی ہوں کہ میرے سُرمے میں سیسہ ملا ہوا ہے ؟"

[illegible] (Environmental Health Officer) [illegible]

"اپنے بچوں کی صحت اور زندگی کا تحفظ کیجئے۔ اچھی طرح یقین کر لیجئے کہ سُرمے میں سیسہ (Lead) نہ ملا ہو۔"

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Deleading Your Premises

For use by inspectors of local health department. Serves to educate property owners/renters on what proper abatement involves or what to expect from a contractor. May serve as an internal check on work performed by hired contractor. Originally developed to let homeowners do their own lead abatement. It is now required that all income properties use a state registered abatement contractor and owner/occupants may take a four hour course given by the local health department.

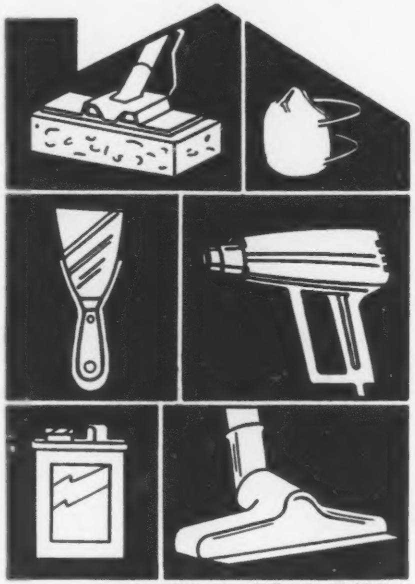
Send all correspondence involving lead paint abatement activities to:

MILWAUKEE HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH TECHNOLOGY DIVISION
(LEAD POISONING PREVENTION PROGRAM)
841 NORTH BROADWAY, ROOM 105
MILWAUKEE, WISCONSIN 53202
(414) 278-3628

Brochure Courtesy of

Family Health Plan

DELEADING YOUR PREMISES



Artwork Courtesy of Milwaukee Health Dept.

A GUIDE FOR HOMEOWNERS & PROFESSIONALS

DELEADING YOUR PREMISES

Your property was recently inspected by the City of Milwaukee Health Department. This inspection was made because a young child living in (or regularly visiting) your building has lead poisoning.

Young children usually become lead poisoned by eating paint chips containing lead, by chewing on leaded paint surfaces or by placing lead paint dust laden toys or fingers in their mouths. The lead paint may have been later covered with coats of non-lead paint or wallpaper. When walls, ceilings or woodwork deteriorate, paint chips and dust can fall to the floor where young children can reach them. A typical lead paint chip the size of a fingernail can cause severely elevated blood lead levels if eaten by a child. High blood lead levels may reduce a child's mental abilities and future chance for success.

Building Tests

During the inspection, paint containing lead in excess of 1 mg/cm² of surface area was discovered. This paint is either on a surface that is in disrepair (peeling, flaking, scaling), on a surface that can be chewed or on a surface that is subject to friction or abrasion. Tests were done on site with a lead-in-paint analyzer. Paint samples and other substances may also have been collected and analyzed by the Health Department Chemistry Laboratory. Upon request, the results of these tests will be given to you.

Code and Permit Requirements

You have been ordered by the City of Milwaukee to remove or cover certain lead paint hazards on your property. These orders are issued under Section 66-22 of the Milwaukee Code of Ordinances. If you do not comply with the order in the stated period of time, you receive a citation for each day you are in violation of this code. The penalty on this citation is a monetary forfeiture of up to $5,000. Nonpayment can lead to a jail term of 3 to 30 days.

Abatement projects involving repair to more than 10 square feet of lead painted surfaces require a permit. Lead paint abatement permits will only be issued to applicants that document knowledge of proper abatement procedures or who have completed a four-hour lead abatement training course.

Initial Cleaning and Temporary Hazard Control

The property owner must take the following **temporary emergency action** within five days of receiving the notice of violation:

1. HEPA vacuum all interior surfaces, including woodwork, woodtrim, walls, ceilings, windows, floors, windowsills and wells to remove all loose lead paint chips and dust. A HEPA vacuum is a High Efficiency Particulate Air Vacuum that is equipped with a special filter that collects microscopic lead paint particles that pass through a house or shop vacuum filter. These tiny particles have been shown to cause continued lead poisoning in children after lead paint hazards have been corrected and a house "appears clean". For this reason shop and household vacuums may not be used for this initial cleaning or for any cleanup during lead paint abatement. HEPA vacuums may be obtained by owner occupants from the City of Milwaukee Department of Building Inspection Tool Loan Center. Southside, 278-5545 or Northside, 445-1010.

2. Cover cracks, holes and peeling areas in walls, ceilings and woodtrim with cloth tape, contact paper or plywood to prevent children from picking at the paint edges and to prevent paint chips and dust from falling to the floor.
3. Cover indicated interior windowsills with cloth tape to prevent children from mouthing these surfaces.

Training is Required

When initial cleaning and hazard control have been completed, you are ready to begin planning the lead paint abatement project. If you are a home owner planning on abating your own house, you must attend a four-hour training course conducted by a Health Department approved trainer. If you do not live in the property requiring abatement, you must hire a lead abatement contractor to do the work or receive training yourself. All certified lead abatement contractors have attended a Health Department approved abatement course. Obtaining several bids and checking with the Better Business Bureau can save money and prevent future problems. A list of approved trainers and contractors is available from the Health Department.

Posting Warning Signs

Twenty-four hours before beginning any lead paint abatement, you must post 20" by 14" caution signs at all entrances and exits. The signs must be conspicuously placed and display the words, "**DANGER — LEAD PAINT DUST HAZARD,**" in English and any other language spoken by the inhabitants of the dwelling. Occupants must be notified of the health hazards associated with abatement procedures and that the area must be vacated while abatement is being conducted.

Site Preparation

1. Remove all furnishings from the room to be abated.
2. Seal the following with 6 mil plastic and tape:
   a. Furnishings which cannot be removed from the area of abatement
   b. Floors (edges secured with tape)
   c. Heating, ventilating, and other room openings
   d. Entrance and exit door to abatement area using two layers of plastic taped at the top and alternating sides

Interior Abatement Methods

Required abatement:

1. Floors which require treatment shall be covered with vinyl sheet goods, linoleum flooring or other approved materials.
2. Windows requiring treatment must be scraped to provide a smooth surface, loose or missing glazing must be replaced, and the entire window must be repainted. Exterior windowsills and wells must be replaced or covered with fiberglass.
3. Walls, ceilings, woodwork and wood trim which require treatment must be scraped and repaired to create a smooth surface. The entire wall, ceiling, woodwork and wood trim piece must then be HEPA vacuumed, washed with a phosphate-water solution and then coated with an encapsulant or Health Department approved material. Trisodium phosphate (TSP) or automatic dishwasher detergent can be used to make the wash solution. Follow label instructions and safety precautions.
4. All waste resulting from the abatement process must be well wrapped and removed from the abatement site at the end of each work day. Solid lead containing abatement wastes from residential properties may be sealed in two layers of 6 mil plastic and discarded with household waste.
5. After the entire abatement process has been completed, a final HEPA vacuum and high phosphate wash of all surfaces in the dwelling or supplemental location must be done.
6. Sanding, sandblasting, grinding, the use of an open flame torch or strippers containing methylene chloride are strictly prohibited methods of on site lead paint removal.

Abatement Tips

1. Replacing woodwork with unpainted pieces such as windowsills, window units, stair treads, door frames or doors, may reduce costs.
2. Woodwork can be removed and sent to a business that chemically strips off the paint.
3. A heat gun can be used to soften the paint for scraping. Avoid using heat guns that reach temperatures over 700° because they can release toxic lead fumes.
4. Non-flammable chemical strippers can be applied followed by scraping. Follow all safety directions on the label such as wearing rubber gloves and safety glasses and working in a well-ventilated area.

Exterior Abatement Methods

Required abatement practices:

1. Conspicuously place 20" by 14" signs outside the dwelling that display the words "**DANGER — LEAD PAINT DUST HAZARD.**"
2. Notify occupants of the dwelling of the hazard associated with abatement and do not allow them to enter the abatement area.
3. Close all windows and doors while abatement work is being conducted.
4. Drop cloths must be used to collect abatement wastes. These must be attached to and extend at least six feet from the form being worked on or the base of the structure. If you fail to do this, you may be ordered to remove the top three inches of soil around the structure and replace it with uncontaminated soil.
5. Collect all abatement wastes at the end of each work day and either store them in a secured area or properly dispose of them.

Safety Procedures

1. Keep children and pregnant women out of the abatement area. When extensive deleading is required, occupants should be moved out of the building.
2. Use disposable work clothing and shoe coverings and remove them immediately before exiting the work area.
3. Use half-mask respirators rated for dust if the abatement procedures produce small particles or dust. Respirators rated for organic vapors can provide protection from chemical stripping vapors. Combination respirators can be purchased that will protect against dusts and organic vapors.
4. Wet areas to be scraped with water from a spray bottle will greatly reduce the amount of dust that is produced.
5. Take care when working near electric service wires. Contacting wires with aluminum or wet wooden ladders could result in severe injury or death.

Penalty

If an inspection of the work area reveals that proper work practices have not been employed, a citation will be issued.

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LEAD IN CERAMICS / TABLEWARE

While not a major source of lead poisoning, both ceramic ware covered with a lead-based glaze and lead crystal can contaminate food and beverages with lead. Lead used in solder on some cans and foil wrapping for wine bottles may also contaminate the contents of these containers. Individuals can inadvertently be exposed to lead by consuming such food and drink.

Ceramics, Pottery, China

Imported ceramics and pottery may contain leaded glazes. Acidic foods or beverages (including alcohol) served in or on leaded crystal or ceramic ware can cause the lead to enter, or leach, into the food and beverage. Storing alcoholic beverages in crystal decanters is not recommended.

Lead leaching is increased when food or drink is:

- acidic (citrus fruits, tomatoes)
- served at high temperatures
- stored, over time, in containers that contain lead

Some people have been acutely poisoned by lead from ceramics purchased while visiting other countries. China and ceramic items imported from the following countries may contain leaded glazes:

Mexico
Italy
The Netherlands
Puerto Rico
Thailand
Hong Kong
N.Korea
Portugal
India
Morocco
Spain
Macao
China

One indication that an item may contain lead is the presence of a grayish chalky residue remaining on the surface after washing.

Recently, the FDA identified lead in glazes of some fine porcelain china designed for tableware use. China and porcelain manufacturers having some products found to contain lead include:

Lenox
Mikasa
Noritake
Pickard
Royal Doulton
Fitz & Floyd
Pfaltzgraff
Wedgewood
Villeroy & Boch
Syracuse China

If you are not sure, test household items for lead. If lead is present, use these items for decoration rather than tableware. Do not use items with leaded glazes to prepare or store foods or beverages.

Lead Solder on Cans

Lead can contaminate food stored in cans and other containers which have been soldered with lead. This is particularly a problem with cans of foreign origin. Imported cans soldered with lead may feel lumpy along the soldered seam. During the 1970's, more than 90% of cans manufactured in the U.S. were joined with lead solder. Today, fewer than 5% of these cans have lead solder. Most are aluminum soldered, formed by a smooth joint along the can seam line. In general, fresh and frozen foods have less lead than canned foods.

MDE

DIVISION OF LEAD POISONING PREVENTION
MARYLAND DEPARTMENT OF THE ENVIRONMENT
2500 Broening Highway, Baltimore, Maryland 21224 (410) 631-3859

Table Wines

Many table wine bottles are wrapped with a soft foil capsule made of lead. Lead salts can form on the rim of the bottle and eventually be dissolved into the liquid as it is being poured. Although this situation occurs very infrequently, avoid this problem by carefully removing the foil covering and cork. Wipe the rim of the bottle and cork with a cloth soaked in vinegar or lemon juice before pouring the wine. Wines bottled without lead foil are generally safer.

Testing Tableware for Lead

Generally, items which contain no lead have "lead-free" labels or stickers on them. However, while the FDA tests samples of imported and domestic ceramic ware and sets general guidelines for lead testing, it cannot test **all** items entering the U.S. The FDA advises consumers to check mugs and other uniquely decorated ceramic ware for the presence of lead. **Do not use an item for food or drink if you suspect that it may contain lead.** Be aware that stores throughout the U.S. may have unknowingly accepted tableware and other items for retail which contain lead. Testing of questionable items is recommended.

You may check suspect items using a home test kit or private laboratory. Both the Frandon (R) Lead Alert Kit and the Hybrivet (R) Lead-Check Swabs test kits, recently reviewed by Consumer Reports, can detect the probable presence of **high levels of lead** in ceramics. They cannot, however, indicate the amount of lead present. Because these kits are not very sensitive for detecting lower levels of lead and may actually fail, in some cases, to accurately detect the presence of lead, the consumer is reminded to rely on their results with caution. Testing kits are directly available from the following companies listed. You may also look for these products at paint, hardware, or do-it-yourself retailers.

LeadCheck Swabs (8/$16.45 + s/h*) *[s/h $3.50] (16/$29.95 + s/h*)	**Frandon Lead Alert Kit** (40/$19.95 + s/h) *[s/h $3.50] (100/$29.95 + s/h)
HybriVet Systems, Inc. P.O. Box 1210 Framingham, MA 01701 (800) 262-LEAD (5323)	**Pace Environs** 207 Rutherglen Drive Cary, NC 27511 (800) 359-9000 OR 81 Finchdene Square Scarborough, Ontario Canada M1X1B4 (416) 293-4955

In Maryland, chemical laboratory testing services for lead in ceramics/tableware are available to individual consumers from a variety of laboratories, many of which test for lead in paint. One type of analysis may require dishes to be chipped or broken prior to testing. Other methods allow for items to remain intact. Costs range from $25 to $125 per item tested.

Notify the FDA

If testing reveals a high level of lead in a recently purchased ceramic item, notify the local FDA office listed in the blue pages of the telephone book, or call FDA's Consumer Affairs Office headquarters at (202) 245-1317. The Baltimore area FDA Office can be reached at (410) 962-3593.

Minimize your exposure to lead in tableware:

1. Do not store acidic foods or beverages in ceramic tableware, crystal or containers that are highly decorated on the inside.
2. Limit the use of antique glazed items for special occasions.
3. Use items specifically labeled "For Decorative Use Only" as directed. Do not use for food or beverages.
4. When possible, buy fresh or frozen foods.
5. Test ceramic and china household items you use frequently.
6. When in doubt, TEST.

CRITIQUE FORM

City of Milwaukee Lead Poisoning Prevention Program materials being submitted for inclusion in Volume III of the Primary Prevention Strategies Handbook.

TITLE: Supporting "First -Time Parent" Newsletter

Who uses this material?

Parents of children born at several Milwaukee area hospitals.

What is the purpose of the material?

To give parents timely information about Lead testing and immunizations. Parents receive each newsletter at age indicated.

How is the material used in the program operation?

Preventive measure and education

How and why was the material developed?

Preventive & education strategy to accompany newsletter already sent by community program.

Based on evaluations are there any plans for modification of the materials?

No, just developed

Recommendations for modifying or improving the material:

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Anthony and Angel at Four Months

IMMUNIZATION UPDATE

Anthony and Angel were born four months ago. They are twins, and the family has really pitched in to help with them. The twins' grandmother comes over often to take care of them. They are very alert and playful. They smile and want to be around people all the time.

The twins are going to the doctor today. They will be getting their four month immunizations (baby shots). Anthony was a little fussy after his two month shots, but Angel was fine. The doctor said that sometimes a child will get fussy or mildly ill after an immunization. She said this is normal. The doctor also explained why it is important to have the twins immunized.

Anthony and Angel received antibodies from their mother's blood system before they were born. This protected the twins during their first months of life. This protection is called immunity, but it wears off. Immunizations (baby shots) help the twins build their own immunity against diseases. That's why immunizations should start early and be given on time.

The twins' grandmother remembers the suffering and death from diseases such as polio and diphtheria. She insists that the twins get **all** their immunizations.

Immunizations are important. Measles, mumps, rubella, diphtheria, tetanus, whooping cough, polio, Hib, and hepatitis B can be prevented through immunization. Anthony and Angel will not be fully protected unless they receive all their immunizations. Children are more likely to get sick from these diseases when they are very young. That is why the twins' parents are not going to wait. They know the twins need their immunizations!

For more information about immunization clinics at the City of Milwaukee Health Department, call **286-2269**. If you live outside the city, call your doctor or health department.

CHILDHOOD LEAD POISONING PREVENTION

Lead poisoning is the #1 preventable childhood disease today.
Find out how to protect your child from lead poisoning. Call your doctor or the City of
aukee Health Dept.
5-LEAD.

CHILDREN'S IMMUNIZATION SCHEDULE

AGE	DTP	OPV	Hib	HB	MMR
2 mo.	*	*	*	*	
4 mo.	*	*	*	*	
6 mo.	*	*	*		
12-15 mo.			*		*
15-18 mo.	*			*	
4-6 yrs.	*	*			*

DTP **Diphtheria** is a serious infection of the nose and throat. It can cause death.
Tetanus (lockjaw) results when a wound is infected by bacteria causing uncontrollable muscle spasms. It can cause death.
Pertussis (whooping cough) is marked by severe, often violent, coughing spells.

OPV **Polio** is a disease that can cause paralysis and death.
Hib **Haemophilus influenzae type b** causes meningitis (an infection on the covering of the brain), pneumonia, and infections in the bloodstream, joints, bones, soft tissues, throat, and the covering of the heart. It can cause death or permanent brain damage.
HB **Hepatitis** is an infection of the liver that causes the skin to turn yellow. It can cause cirrhosis of the liver and liver cancer.
MMR **Measles** can cause ear infections, pneumonia, and encephalitis (inflammation of the brain). This can lead to convulsions, deafness, or mental retardation.
Mumps causes fever, headache, and swelling of the cheeks. It can also cause deafness and, in boys, can cause sterility.
Rubella (German measles) causes a fever, rash, and swollen glands in the neck. Occasionally, it can cause encephalitis or purpura (a temporary bleeding disorder).

City of Milwaukee Health Dept.• All Kids Count Immunization Plan • Childhood Lead Prevention Program

THE CITY OF MILWAUKEE HEALTH DEPARTMENT DOES NOT DISCRIMINATE ON THE BASIS OF RACE, COLOR, NATIONAL ORIGIN OR DISABILITY. PERSONS NEEDING DISABILITY ASSISTANCE SHOULD CALL 286-3521 OR (TDD) 286-2025

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Supporting First-Time Parents Program

A collaboration of agencies that work with families and hospitals in Milwaukee County.

- Rosalie Manor, Inc.
- Family Service of Milwaukee
- New Concept Self Development Center
- Next Door Foundation
- Silver Spring Neighborhood Center
- Sixteenth Street Community Health Center
- St. Francis Hospital
- St. Joseph's Hospital
- St. Luke's Medical Center
- St. Mary's Hospital
- Sinai Samaritan Medical Center
- Trinity Memorial Hospital

For more information call: (414) 449-2868 or 647-5808

Rosalie Manor, Inc.
4803 West Burleigh Street
Milwaukee, WI 53210

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762

Anthony and Angel at Six Months

KEEPING IMMUNIZATION RECORDS

Anthony and Angel are six months old now. They can sit up on their own and love to play peek-a-boo with their dog. It's getting more and more difficult to keep up with them! But both parents admit they wouldn't change any of it.

It is time for the twins' six month immunizations (baby shots). They are starting day care soon, so they will need to have all their immunizations. The twins' mother keeps records of which immunizations the twins have had (see sample immunization record). She learned how important it is to keep immunization records. Once she lost their records and had to call all the clinics where the twins got their immunizations to get this information. Now Anthony and Angel's mom keeps two immunization records for them. One she keeps in a safe place at home, and the other she keeps with her. She asks the nurse to update this record each time the twins get an immunization.

Anthony and Angel will get all their immunizations on time. Their parents know it is very important to keep records of which immunizations the twins have had. They learned that it is important to keep these records and update them each time an immunization is given.

For more information about immunization clinics at the City of Milwaukee Health Department call **286-2269**. If you live outside the city, call your doctor or health department.

CHILDHOOD
LEAD
POISONING
PREVENTION

Lead poisoning is a hidden danger. Most children have no symptoms.
Find out about lead poisoning. Call your doctor or the Milwaukee Health Dept. at 225-LEAD

CHILDREN'S IMMUNIZATION SCHEDULE

AGE	DTP	OPV	Hib	HB	MMR
2 mo.	★	★	★	★	
4 mo.	★	★	★	★	
6 mo.	★	★	★		
12-15 mo.			★		★
15-18 mo.	★			★	
4-6 yrs.	★	★			★

DTP - diphtheria, tetanus, pertussis
OPV - oral polio vaccine
Hib - haemophilus influenzae type b
HB - hepatitis B
MMR - measles, mumps, rubella

SAMPLE IMMUNIZATION RECORD

Record month/day/year below vaccine.

DTP	Polio	MMR
		TD
	Hepatitis B	
Hib list type & date		
		Others

City of Milwaukee Health Dept.• All Kids Count Immunization Plan • Childhood Lead Prevention Program

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Anthony and Angel at Seven Months

SOURCES OF LEAD POISONING

Anthony and Angel are almost seven months old. They are both rolling over now. Angel did it first, but now both of them roll around together. The family likes to watch them roll across the floor and listen to them giggle whenever they bump into each other, or their dog!

The twins are both teething, but Anthony is more fussy, and always wants to be held. It seems to help him calm down when his father holds him. Lately, he has been putting everything into his mouth. His mother has found him chewing on a shoe, and the dog's bone. She always takes these things away, but it is hard to watch him all the time. What will it be like when he starts crawling? What else should the family know?

The twins' grandmother has a friend whose granddaughter, Monique, just started crawling. Monique has an elevated lead level probably from lead dust in her home. Now the grandmother is worried about Anthony and Angel being exposed to lead.

At the twins' appointment last month for their 6-month baby shots, the doctor talked about lead poisoning. She said that an elevated lead level can cause brain damage, mental retardation, and loss of intelligence. She said this may happen from exposure to lead paint used in homes built before 1977. The twins' house and the grandmother's house are both old, so they may have lead paint on them. Both houses have places where the paint is chipping or flaking. The doctor said these are areas where Anthony and Angel could peel the paint and eat the chips. These are also areas where finely ground lead paint becomes dust. Lead dust can get on the twins' fingers or toys. When they put their fingers or toys in their mouths, the lead gets into their bodies. The doctor reminded the twins' mother that she should also check the day care center to make sure it doesn't have chipping/flaking paint.

The doctor told them that lead poisoning can be prevented. She said that now is the time to prevent lead poisoning - before it happens!

The information the doctor gave them is on the other side of this sheet. They found it very helpful and hope you will too. If you have any questions and you live in the city of Milwaukee, call the Health Department's Lead Poisoning Hotline at **225-LEAD**. If you live outside the city, call your doctor or local health department.

CHILDHOOD
LEAD
POISONING
PREVENTION

REMEMBER

KIDS NEED SHOTS WHILE THEY'RE TOTS
Immunizations (baby shots) keep kids from getting sick.
Call your doctor or the City of Milwaukee Health Dept. at 286-2269

City of Milwaukee Health Dept.• All Kids Count Immunization Plan • Childhood Lead Prevention Program

THE CITY OF MILWAUKEE HEALTH DEPARTMENT DOES NOT DISCRIMINATE ON THE BASIS OF RACE, COLOR, NATIONAL ORIGIN, OR DISABILITY. PERSONS NEEDING DISABILITY ASSISTANCE SHOULD CALL 286-3521 OR (TDD) 286-2025

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How Can I Protect My Children From Lead Poisoning?

Check for any peeling/chipping paint inside and outside your home

- Cover peeling/chipping paint with contact paper, cardboard, or furniture until the paint can be removed and repaired or painted over.
- Pick up paint chips inside and outside. (Do not vacuum or sweep up chips).
- Wet mop floors and wipe often with high phosphate detergent (see below). Rinse with clear water and dispose of rags/toweling, or borrow a HEPA Vac (a special vacuum designed to trap lead) by calling 225-LEAD.
- Check for dust and peeling/chipping paint in the windowsill areas. Wipe these areas often with high phosphate detergent (see below).
- Throw out old painted toys and cribs that your children might chew.

Wash your children's hands often, especially before eating and after playing outside.

Give your children foods high in calcium and iron

- These foods help get lead out of children's bodies.
- Foods high in calcium and iron are green leafy vegetables, milk, yogurt, cheese, lean beef, chicken, and turkey.

Try not to give your children foods high in fat

- These foods help lead stay in children's bodies.
- Foods high in fat are chips and snack foods, fried foods, bakery (donuts, cakes, and cookies), and any foods with fat added.

Run your water before using it

- If water has not been used for over six hours, run it for at least 30 seconds.
- Do not drink or cook with water from the hot water tap - it may have more lead in it.

Have your children tested for lead poisoning once a year between 9 mo. and 7 yrs.

Remember, your children may spend time in places other than your home (day care, friends, and relatives' homes). Check these places for lead, too.

Phosphate Detergent for Use in Lead Cleanup

The phosphate in automatic dishwasher detergents has been found to reduce lead hazards on surfaces such as windowsills, floors, walls, and toys.

The following automatic dishwasher detergents can be used to clean lead hazards in your home and can be found in most grocery stores:

POWDERS		LIQUIDS
Sunlight	Cascade	Palmolive
Roundy's	ALL	Cascade
Electrasol		Sunlight

Directions: *Add 1/2 cup of detergent to one bucket of water. Water should be changed as soon as it gets dirty. Rinse with clean water. Rags or toweling that are used for cleaning should be disposed of or washed separately.*

Lead Poisoning Hotline - 225-LEAD

LDPRVVEN 9/93

City of Milwaukee Health Department
Lead Poisoning Prevention Program

Anthony and Angel at Ten Months

PREVENTING LEAD POISONING

CHILDHOOD LEAD POISONING PREVENTION

Anthony and Angel are ten months old already. It seems like just yesterday they were so little. Life around the house has sure changed!

Angel has just started crawling, and it looks like Anthony will crawl soon too. With both children crawling, some changes had to be made to make the house safer. Their grandmother covered the electrical outlets; their aunt put up a gate on the stairway; their dad put safety latches on all the drawers; and their mother turned down the water heater. The house seems safer, but is it safe enough? Their grandmother keeps thinking about her friend's granddaughter, Monique, who was exposed to lead from her house. She doesn't want that to happen to the twins.

Monique never had any symptoms of lead poisoning. She didn't even seem to be sick! They found out that she had an elevated lead level from a test the doctor did at her "Well Baby" check up. Now Monique may never be as smart as she might have been, She might have learning and behavior problems. The saddest part is that the lead poisoning could have been prevented. It didn't have to happen!

Anthony and Angel's grandmother wants to make sure that this doesn't happen to the twins. She got some information from the City of Milwaukee Health Department about lead poisoning. This helped the family make some changes at home to prevent lead poisoning.

They asked their landlord to make some repairs around the house. At first he didn't do anything. After they gave him some information on lead poisoning, he had someone make the repairs. The Health Department was very helpful with suggestions on proper ways to do the work.

The family is also cleaning the house a different way. They now use a cleaning solution of water and automatic dishwasher detergent. This type of detergent is high in phosphate. It is a strong cleaner which cleans up lead. (*For more information, see the other side.*) They also run the water before they let the twins drink it. (They may have lead water pipes.) They watch the twins closely so they do not put things into their mouths which may be dirty. Also, they have asked their doctor to test the twins for lead poisoning every year until they are seven years old. Hopefully, these changes will prevent Anthony and Angel from getting lead poisoning like Monique!

For more information about lead poisoning, call the City of Milwaukee Health Department at **225-LEAD**. If you live outside the city, call your doctor or local health department.

REMEMBER

KIDS NEED SHOTS
WHILE THEY'RE TOTS
Immunizations or baby shots keep kids from getting sick.
Call your doctor or the City of Milwaukee Health Dept. at 286-2269

City of Milwaukee Health Dept.• All Kids Count Immunization Plan • Childhood Lead Prevention Program

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- Throw out old painted toys and cribs that your children might chew.

Wash your children's hands often, especially before eating and after playing outside.

Give your children foods high in calcium and iron

- These foods help get lead out of children's bodies.
- Foods high in calcium and iron are green leafy vegetables, milk, yogurt, cheese, lean beef, chicken, and turkey.

Try not to give your children foods high in fat

- These foods help lead stay in children's bodies.
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Run your water before using it

- If water has not been used for over six hours, run it for at least 30 seconds.
- Do not drink or cook with water from the hot water tap - it may have more lead in it.

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Remember, your children may spend time in places other than your home (day care, friends, and relatives' homes). Check these places for lead, too.

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Roundy's	ALL	Cascade
Electrasol		Sunlight

Directions: *Add 1/2 cup of detergent to one bucket of water. Water should be changed as soon as it gets dirty. Rinse with clean water. Rags or toweling that are used for cleaning should be disposed of or washed separately.*

Lead Poisoning Hotline - 225-LEAD

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City of Milwaukee Health Department
Lead Poisoning Prevention Program

Anthony and Angel at 12 Months

IMMUNIZATIONS-SHOTS FOR TOTS

Anthony and Angel are now one year old. They are cruising all over the house, and will probably take their first steps on their own soon. Their aunt says it seems like just yesterday they were learning to roll over. Now they are almost ready to walk.

The twins are going to the doctor for their one year checkup. They will be getting their MMR immunization soon. This immunization (baby shot) is very important because it will keep the twins from getting measles, mumps, and rubella. These diseases are still around. They can be prevented if the twins get all their immunizations (baby shots). The MMR immunization can be given anytime after the twins' first birthday.

Anthony and Angel's aunt keeps reminding their mother that they are not finished with their immunizations yet. Too many children are catching measles and other dangerous diseases like pertussis (whooping cough) and diphtheria. She knows this is important, because when her baby, Michael, was one year old, he got the measles. He was in the hospital and almost died. The twins' aunt reminds their parents how important it is to keep the twins up-to-date with all their immunizations. Immunizations (baby shots) work best when all the shots are given. Anthony and Angel's parents plan to get them all their immunizations so they will be fully protected from these diseases.

For more information about immunization clinics at the City of Milwaukee Health Department call **286-2269.** If you live outside the city, call your doctor or local health department.

CHILDHOOD
LEAD
POISONING
PREVENTION

Lead poisoning can cause:
- -Learning problems
- -Behavior problems
- -Loss of intelligence

Have your child tested for lead poisoning! Find out about lead poisoning. Call your doctor or the Milwaukee Health Dept. at 225-LEAD

CHILDREN'S IMMUNIZATION SCHEDULE

AGE	DTP	OPV	Hib	HB	MMR
2 mo.	★	★	★	★	
4 mo.	★	★	★	★	
6 mo.	★	★	★		
12-15 mo.			★		★
15-18 mo.	★			★	
4-6 yrs.	★	★			★

DTP	- diphtheria, tetanus, pertussis
OPV	- oral polio vaccine
Hib	- haemophilus influenzae type b
HB	- hepatitis B
MMR	- measles, mumps, rubella

SAMPLE IMMUNIZATION RECORD

Record month/day/year below vaccine.

DTP	Polio	MMR
		TD
	Hepatitis B	
Hib list type & date		
		Others

City of Milwaukee Health Dept.• All Kids Count Immunization Plan • Childhood Lead Prevention Program

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11/93

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- **St. Mary's Hospital**
- **Sinai Samaritan Medical Center**
- **Trinity Memorial Hospital**

For more information call: (414) 449-2868 or 647-5808

Rosalie Manor, Inc.
4803 West Burleigh Street
Milwaukee, WI 53210

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770

MAR 0 2 '93

TITLE: *LEAD POISONING: THE SILENT EPIDEMIC*

DESCRIPTION: The original video was produced to give and overview of the lead poisoning problem and to accompany "Get the Lead Out: A Community Discussion Package." The video and the print materials have been endorsed by the National Education Association and the New Jersey Education Association. The video is available in both English and Spanish versions. It describes who is at risk, symptoms of lead poisoning, sources of lead, what lead does to the body, and encourages screening for lead and the dangers of abatement.

RUNNING TIME: 22 MINUTES

INTENDED AUDIENCE: Multi-ethnic parents and lay public.

LIMITS OF THE VIDEO: The video is not intended to provide detailed medical information, nor is it intended to be shown in sections (although some presenters have done so).

AGENCY: The video is available from the
Lead Poisoning Prevention Education and Training Program,
301 South Central Plaza-Laurel Road, Suite 1600
Stratford, New Jersey 08084

or Concerned Parents for Head Start
90 Martin Street
Paterson, New Jersey

CONTACT: Joan Cook Luckhardt
908-329-3429

COST: AT NEW COST: $19.95 (Until 3/1993, the package is available without charge as a grant from the MetPath Foundation has enabled packages to be distributed without charge).

BEST COPY AVAILABLE

TITLE: ***GETTING THE LEAD OUT: ELLEN SILBERGELD LECTURE***

DESCRIPTION: A edited video of Ellen Silbergeld's lecture at the conference, "Getting the Lead Out," held May, 1991 in New Brunswick, New Jersey. The video has been edited to include close up shots of her slides and computer graphics have added to enhance the presentation. The talk focuses on the policy implications of new research on lead.

RUNNING TIME: Around 30 minutes.

INTENDED AUDIENCE: parents and lay public. Policymakers also find this lecture an excellent overview of the problems and issues that have policy implications.

LIMITS OF THE VIDEO: It was not meant to give an indepth explanation of current research. It would also exceed the interest of people who do not have an interest in policy issues, or did not have a ninth grade education or reading level.

AGENCY: The video is available from the
Lead Poisoning Prevention Education and Training Program,
301 South Central Plaza-Laurel Road, Suite 1600
Stratford, New Jersey 08084

CONTACT: Joan Cook Luckhardt
908-329-3429

COST: Send a blank video tape for reproducing the tape.

VIDEOS

TITLE: *GETTING THE LEAD OUT: JUDGE KEEFE LECTURE*

DESCRIPTION: Judge John Keefe was responsible for the model orders used by the courts to handle asbestos cases. He lectures on the legal issues that surrounded asbestos litigation and notes the similarities with lead issues. His talk is an excellent overview of the court system and the methods that would likely emerge from such litigation.

RUNNING TIME: Around 30 minutes.

INTENDED AUDIENCE: parents and lay public. High school students as well as professional lawyers will find this of interest.

LIMITS OF THE VIDEO: It is a straight lecture and has no additional graphics nor edited visuals. Thus, it is the content which has strength and not the visual image. The quality of the video is excellent.

AGENCY: The video is available from the
Lead Poisoning Prevention Education and Training Program,
301 South Central Plaza-Laurel Road, Suite 1600
Stratford, New Jersey 08084

CONTACT: Joan Cook Luckhardt
908-329-3429

COST: Send a blank tape for trade.

VIDEOS

TITLE: *GETTING THE LEAD OUT: DR. JOHN GRAEF LECTURE*

DESCRIPTION: Dr. John Graef is considered the expert on clinical care for children with lead poisoning. He is head of the lead clinic at Boston's Children Hospital. He lectures on the history of the clinical care, key research that altered care and concerns, and levels of intervention. He discusses related policy issues. The overheads and slides are shot from the screen on which he showed them at the "Getting the Lead Out" conference in New Brunswick, New Jersey, in May 1991.

RUNNING TIME: Around 30 minutes.

INTENDED AUDIENCE: Parents, policymakers and lay public. Medical students as well as professional physicians will find this of interest.

LIMITS OF THE VIDEO: It is a straight lecture and has no additional graphics beyond those used in the talk, nor are there visuals edited into the video. Thus, it is the content which has strength and not the visual image. The quality of the video is excellent.

AGENCY: The video is available from the
Lead Poisoning Prevention Education and Training Program,
301 South Central Plaza-Laurel Road, Suite 1600
Stratford, New Jersey 08084

CONTACT: Joan Cook Luckhardt
908-329-3429

COST: Send a blank tape for trade.

TITLE: *PEOPLECARE: Getting the Lead Out*

DESCRIPTION: Three New Jersey Commissioners representing the Departments of Health, Human Services, and Community Affairs; a New Jersey Assemblywoman; a Local Lead Program Coordinator, Health professional; and a parent of a lead poisoned child discuss the problems and solutions to lead poisoning in local communities. There are three segments to the video. The first features Assemblywoman Ann Mullen, who dealt with a lead poisoning problem in a suburban community, and Commissioner of Human Services, Allan Gibbs, who in the 1970s had been an administrator in the New York City lead program under Mayor Lindsay. The second segment features the local health official and a parent discussing how lead poisoning affects a family and the barriers to care faced in a local program; and the last segment features Dr. Frances Dunston, Commissioner of Health, and Mr. Randy Primas, Commissioner of Community Affairs, discussing the importance of removing lead from the environment and the types of treatment children with elevated levels can undergo. Each segement is introduced with footage of New Jersey communities.

RUNNING TIME: 25 MINUTES

INTENDED AUDIENCE: Lay public and professionals.

LIMITS OF THE VIDEO: The video is not intended to provide detailed technical information but to give an overview of the policy problems and solutions that each department contributes to the lead issue.

AGENCY: The video is available from the
Lead Poisoning Prevention Education and Training Program,
301 South Central Plaza-Laurel Road, Suite 1600
Stratford, New Jersey 08084

CONTACT: Joan Cook Luckhardt
908-329-3429 or 609-782-6034

COST: The video is without charge; please send a blank tape for copying.

TITLE: ***Stephanie Pollack at Rx for Lead: The Remedies***

DESCRIPTION: Stephanie Pollack, A founding member of the Alliance to End Childhood Lead Poisoning and a senior attorney from the Conservation Law Center in Boston, spoke about developing abatement legislation in Massachusetts. The final form of the legislation was negotiated between realtors, bankers, environmentalists, and lead poisoning prevention advocates. Ms. Pollack is noted as crafting the original lead legislation in Massachusetts. Information about her ground-breaking work is mentioned in this talk, as is the subsequent issues that have arisen around implementation of the legislation.

RUNNING TIME: 40 MINUTES

INTENDED AUDIENCE: Lay public and professionals.

LIMITS OF THE VIDEO: The video is not intended to provide detailed legislative history, but does describe the dynamics of crafting legislation and the ways to use leverage to propel the legislative process.

AGENCY: The video is available from the
Lead Poisoning Prevention Education and Training Program,
301 South Central Plaza-Laurel Road, Suite 1600
Stratford, New Jersey 08084

CONTACT: Joan Cook Luckhardt
908-329-3429 or 609-782-6034

COST: The video is without charge; please send a blank tape for copying.

TITLE: ***LP-PET Program Slide Set on Prevention of Lead Poisoning***

DESCRIPTION: A set of fifty slides with an accompanying script. The slides include maps and charts about lead poisoning, slides of sources of lead, and tables on research findings. Additional slides will be added periodically.

INTENDED AUDIENCE: The slides are intended for program use. From the set of 50, a presentation can be tailored to the audience.

LIMITATION OF THE MATERIAL:

AGENCY: The material is available from the
Lead Poisoning Prevention Education and Training Program,
301 South Central Plaza-Laurel Road, Suite 1600
Stratford, New Jersey 08084

CONTACT: Joan Cook Luckhardt
908-329-3429

COST: the cost of slide reproduction

TITLE: Resources: Video Tapes

SOURCE: Alliance To End Childhood Lead Poisoning

RESOURCES: VIDEOTAPES , April 30, 1991

Lead Poisoning: It Affects Everyone

Source: The Greater St. Louis Lead Poisoning Prevention Council
P.O. Box 63263
St. Louis, MO 63163

Price: $ 29.95 + $ 3.00 shipping/handling

Content: risks of renovation; safe lead removal by family; basic lead poisoning health information; prenatal exposure/risks

Time: 18 min.

Target: Concerned Parents; Parents who do own renovation

Critique: Language too sophisticated; too much information

Lead Poisoning: It doesn't have to happen

Source: Dr. Shoshana Melman
Hahneman University Hospital
c/o AAP of Pennsylvania
(215) 520-9132
Attn: Suzanne Youngins

Price: $10

Content: introduction to CLP; screening and nutrition; source identification; footage of screening procedure; details of lead inspection and abatement

Time: 10 mins.

Target: parents in medical clinic setting

The Silent Epidemic

Source: Lead Poisoning Prevention Project
Attn. Joan Luckhardt
385 Georges Road or/Concerned Parents of Head Start
Dayton, NJ 08810 (201) 942-1626

Cost: $39.95 as part of community discussion package

Content: introduction to lead poisoning

Time: 20 minutes

Target: General public of New Jersey

Lead Busters

Source: St. Louis Health Department
St. Louis Lead Poisoning Prevention Program
(314) 658-1036

Content: Rap song about lead poisoning prevention

Medstar Communications, Inc.

Source: Medstar Communications, Inc.
5920 Hamilton Boulevard
Allentown, PA 18106
(215) 395-1300

Cost:

Content: lead poisoning highlights; yuppie renovation; need to screen; legislative advances (Bill Bradley)

Time: < 5 minutes

Target: Televised medical news and health information
tv news filler

This Old House Program #1002

Source: PBS Video
1320 Braddock Place
Alexandria, VA 22314
1-800-7963

Price: $125.00

Content: Lead-based paint abatement

Target: The home renovator

Abatement

Source: City of Baltimore
Lead Poisoning Prevention Program
303 East Fayette Street
Baltimore, MD 21202

Price:

Content: 4 part training series for lead-based paint abatement

Target: Contractors

TITLE: Kids and Lead Hazards: What Every Family Should Know
VHS/VCR Tape

SOURCE: See opposite page

USED FOR:

- Merchants/Industrialists
- City Council
- Neighborhood Groups
- PTO/PTA
- Home Owners
- Realtors
- Public Service Organizations (P.S.O.)
- Nurseries
- Churches

COMMENTS: MD/Director, Sanitarian, Outreach, and Nurses say this film is a 29 minute excellent presentation on all facets of lead poisoning. It allows use by program presenters not highly knowledgeable without their doing a lot of individual preparation and seems to be enjoyed highly by groups, even very sophisticated groups. It should be a part of any program working with groups. It is not good in outdoor festival programs.

Kids and Lead hazards:

What every family should know

Hosted by Arthur Ashe

A Consumer Reports Television Special on Protecting Your Family from the Hazards of Lead Poisoning

Produced in association with Connecticut Public Television
Public Broadcast Premiere on National Child Health Day, October 7th

Public Television Premiere
Monday, October 7th, 1991 at 10PM
Connecticut Public Television

Videocassette and companion guide distributed by Public Media Video
To order, please call 1-800-323-4222 ext. 43

TITLE: Public Service Announcements
(Three different 30-second)

FOR USE: With TV Stations in the area as they are willing to do so.

SOURCE: The speaker, Terry Holland, previously coached basket ball at the University of Va. and is now Director of Athletics at Davidson College. He is well known and respected in Va. and NC. and also nationally known. He did this for us free.

The 3 taped announcements can be personalized with local logos, telephone numbers and addresses for a very reasonable fee.

Purchase from=
Video Design Associates
700 Pearl St.
Lynchburg, Va. 24504
(804)846-8842

PUBLIC SERVICE ANNOUNCEMENTS
FOR TERRY HOLLAND
3 X :30

NOTE: All three spots I.D. Holland for :06. (Need to get his exact title.) Then, the following CG appears and remains up:

In Lynchburg Call: 947-2328
Elsewhere In Virginia: 1-800-255-3337

PSA #1

HI. I'M TERRY HOLLAND WITH AN IMPORTANT MESSAGE FOR PARENTS. THERE ARE FIVE-THOUSAND LEAD POISONED KIDS IN VIRGINIA AND THE ONLY WAY TO FIND THEM IS TO TEST THEM. IF YOU LIVE IN AN OLDER HOME WITH CHIPPED OR PEELING PAINT, WORK WITH LEAD, OR LIVE NEAR A BUSY HIGHWAY, YOUR CHILDREN ARE AT RISK -- ESPECIALLY CHILDREN AGE SIX OR YOUNGER. LEAD TESTING IS FREE AT THE CENTRAL VIRGINIA HEALTH DEPARTMENT. JUST CALL THE NUMBERS ON YOUR SCREEN.

PSA #2

HI, I'M TERRY HOLLAND WITH A FEW FACTS ABOUT LEAD POISONING. MOST CHILDREN ARE LEAD POISONED BEFORE THEY'RE BORN AND UP THROUGH THE AGE OF SIX. IT'S HARD TO SPOT BECAUSE THE SYMPTOMS ARE SO COMMON: INFANTS ACT FUSSY, TODDLERS GET TUMMY ACHES, FIRST GRADERS HAVE TROUBLE HEARING, LEARNING, OR BEHAVING IN SCHOOL. HIGH DOSES CAN LEAVE A CHILD DEPENDENT ON OTHERS FOR LIFE. BUT LEAD POISONING IS PREVENTABLE. PLEASE CALL FOR MORE INFORMATION.

PSA #3

HI. I'M TERRY HOLLAND, FORMER HEAD COACH OF THE UVA CAVALIERS, WITH AN IMPORTANT WORD ABOUT LEAD POISONING. YOU KNOW, EVERYTHING IT TAKES TO BE A STUDENT ATHLETE -- A SHARP MIND, GOOD COORDINATION, TEAM SPIRIT -- EVERYTHING IT TAKES TO SUCCEED, LEAD POISONING TAKES AWAY. LITTLE KIDS WHO BREATHE LEAD DUST OR EAT PAINT CHIPS CAN HAVE THEIR DREAMS RUINED FOR LIFE. CALL NOW FOR A FREE LEAD TEST.

Is a Child You Know Sick?

Lead poisoning is the greatest environmental health threat to children today. At least one in every 12 children in a San Francisco survey was affected by it.

Lead is toxic to young kids in tiny amounts and can cause learning disabilities, hyperactivity and stunted growth. There is no real cure for lead poisoning. The damage can be permanent.

The good news is parents can help protect their children from lead poisoning by taking simple steps in their households. A videotape is now available to show families what to do:

KIDS AT RISK:
GETTING THE LEAD OUT OF YOUR HOME

The video, produced by the Sierra Club and the Coalition to Prevent Lead Poisoning, is available in English, Spanish and Cantonese. It shows:

- *What is lead poisoning;*
- *How children get it;*
- *How to tell if a child has lead poisoning;*
- *Actions to take in the home to protect children from further lead exposure;*
- *Where to get free or low-cost lead testing of your home and kids in San Francisco.*

The cost of the 15-minute video is $30 ($20 for non-profit organizations). For an order form, call the Coalition to Prevent Lead Poisoning at Consumer Action: (415) 777-9635 (Spanish, Cantonese and Mandarin speakers available).

Sierra Club
San Francisco Group

CPLP
Coalition to Prevent Lead Poisoning

Printed on recycled paper

The video descriptions on the following pages are excerpts from a directory of lead poisoning videos compiled by the San Francisco Bay Area Region Poison Control Center.

"Kids at Risk: Getting the Lead Out of Your Home"

VHS 15 minutes English, Spanish, Cantonese

This video covers: What is lead poisoning; how children get it; how to tell if a child has lead poisoning; actions to take in the home to protect children from further lead exposure; and where to get free or low-cost lead testing of your home and kids in San Francisco. All versions have on camera speaking and are not dubbed.

Audience: Junior high/High school/Adult

Produced: 1993 by the Sierra Club and the
Poisoning Coalition to Lead Poisoning

Price: $20.00 for non-profit organizations in San Francisco
$30.00 all others

Available from:
Consumer Action
Lead Poisoning Prevention Project
116 New Montgomery Street
San Francisco, CA 94105
202/429-9506

Make check payable to:
Consumer Action, Lead Poisoning Prevention Project

"He's Not the Man I Married...Could It Be Lead?
No es el hombre con quien me case...?sera el plomo

VHS 17 minutes English and Spanish

This is a dramatic narrative about a lead poisoned worker that motivates workers to take lead poisoning seriously and to change work practices which put them at risk of lead poisoning. Completely billigual in both Spanish and English, without the use of subtitles.

A booklet and a curriculum training packet on lead poisoning prevention is currently under development and will eventually accompany the video. The training packet will include detailed information on a range of topics only touched on in the video, including: Cal/OSHA lead regulations; interpretation of blood-lead test results; air monitoring; symptoms and health effects of lead poisoning; methods of preventing lead poisoning; and legal rights.

Audience:	Junior High/High School/Adult
Produced:	1991 by California Occupational Health Program, Dept. of Health Services and State Compensation Insurance Fund
Price:	Free - available on loan - request by phone or in writing
Available from:	CA Occupational Health Program (COHP) Occupational Lead Poisoning Prevention Program (OLPPP) Department of Health Services 2151 Berkeley Way, Annex 11, 3rd floor Berkeley, CA 94705 Attn: Margerie Smith

"Lead Poisoning"

VHS   8 minutes   English, Spanish, Vietnamese
Cambodian, Hmong, Laotian,
and Portuguese

A general awareness of the dangers of lead is presented in a simple manner. Discussion includes: where lead is encountered, common ways children are exposed to or consume lead, related health problems resulting from exposure, common signs/symptoms of lead poisoning, and testing and treatment are described. Suggestions to prevent and protect children from lead exposure are provided.

Audience: Adult

Produced: 1990

Price: $69.00 plus shipping and handling (Discount on bulk orders)
$25.00 preview for one week

Available from: Universal Health Associates, Inc.
P.O. Box 6546
Washington, DC 20035-5465
202/429-9506

"Lead Poisoning: What Everyone Needs to Know"

VHS	15 minutes	English & Spanish

This program offers advice on how to protect oneself and one's children from lead poisoning. It describes sources of lead and presents ways to get rid of the lead in one's environment. It tells of the important role nutrition plays in preventing lead absorption. Symptoms and health effects are covered along with the importance of having a blood test.

Audience:	Junior High/High School/Adult
Produce:	1993
Price:	$295
Available from:	Altschul Group Corporation 1560 Sherman Avenue, Suite 100 Evanston, IL 60201 1/800/421-2363 or 708/328-6700 FAX: 708/328-6706 P.O. Box 6546

"Lead Poisoning"

VHS 22 minutes Hmong (English script provided with video

Describes what lead poisoning is and is not, how a child can become lead poisoned and give practical tips to prevent lead poisoning. A good overview of the lead poisoning problem

Audience: Junior High/High School/Adult

Produced: 1992

Price: 2 week loan only
May be copied with permission

Available: Attn: Dianne Kocourek Ploetz
Minnesota Department of Health, Lead Program
925 S.E. Delaware
P.O. Box 59040
Minneapolis, MN 55459-0040
612/627-5018

Lead in the Blood"

VHS
20 minutes
Hmong (English script provided with video

Shows the sequence of events that will occur once a child has been diagnosed as being lead poisoned. Topics of discussion include why lead poisoning is a concern, the environmental assessment of the home, the hospitalization of the child, and medical follow-up.

Audience: Adult

Produced: 1991

Price: 2 weeks loan only
May be copied with permission

Available from: Attn: Dianne Kocourek Ploetz
Minnesota Department of Health, Lead Program
925 S.E. Delaware
P.O. Box 59040
Minneapolis, MN 55459-0040
612/627-5018

"Poisoning in Disguise: The Dangers of Lead Based Paint"

VHS 12 minutes English

The following information is included: the source of lead poisoning (with Special emphasis on lead-based paints); lead poisonings devastating health effects; minimizing the risks of lead poisoning; and where and how children are tested for lead poisoning.

Audience: Junior High/High School/Adult

Produced: 1990 with some update since

Price: $79.99 plus $4.00 shipping charge or $199.00 for five copies

Available from: Ryno Production Inc.
Stone Point Landing, Suite 100
500 Market Street
Bridgewater, PA 15009
800/860-7966 or 412/775-9393

"Lead, the Silent Epidemic"

Slides/audio cassette, VHS   9 minutes   English and Spanish

Programs informs the consumer of lead sources and of the health dangers related to lead exposure. Included are many suggestions for reducing the potential for lead poisoning. This project was developed by the Home Economics of the University of California in the South Central Region.

Audience: Consumers

Produced: 1993

Price: $76.00 (93-101) Slide presentation
$20.00 (V93A-English, V93B-Spanish)

Loan: $ 7.00 for California residents
10.00 for non-residents

Available from: Visual Media
University of California
Davis, CA 95616

Other Materials: Camera ready copies of the set of the following brochures available at $5.00:

Lead brochure (Eng, & Sp.),
Lead in Ceramic ware Disclaimer (Eng. & Sp.),
Are you or your family being exposed to lead?
(Eng. & Sp.)
Lead Project Procedural Guidelines (English)

Available From: Jeanette M. Sutherlin
University of California
Cooperative Extension, Fresno County
1720 S. Maple Avenue, Fresno, CA 93702-4516
209/488-3285

Make check payable to: County of Fresno

"Wash Your Hands"

VHS of 3/4 inch tape 6 minutes English

An educational music videotape that shows the familiar image of Sesame Street Big Bird teaching good habits to help avoid poisoning. There are two important lead poisoning prevention messages for children and their parents: Wash your hands before you eat healthy foods and snacks.

This is on a 30 minute cassette which repeats the six minute musical sequence five times.

Audience: Young children and their parents

Produced: 1992

Price: $37.95 (1 to 9 copies)
36.95 (10 or more copies)

Available from: Audrey Barra
Customer Service Coordinator NJ State Council
National Safety Council's Order Center
6 Commerce Drive, Cranford, NJ 07016
908/272-7712 or 2930

Other: A soft vinyl record featuring Gospel style music from the video, four color stickers, and posters are also available.

What do you know about lead poisoning?

WORD PUZZLE

Things in your home that can have lead

Word List

Dishes
Cans
Ashes
Matches
Paint
Clothes
Dust
Crystal

M	A	T	C	H	E	S	P
A	B	F	D	M	E	C	R
H	J	L	U	H	G	K	S
C	R	Y	S	T	A	L	T
A	O	A	T	N	I	A	P
N	N	S	E	H	S	I	D
S	E	H	T	O	L	C	W

MATCHING GAME

Things you should talk to your doctor about Lead Poisoning

1. Repeated ingestion of non-food items such as lead paint chip	*A.* Window sill
2. Eating leaded paint or painted surface	*B.* Broom sweeping leaded dust
3. Breathing lead contaminated air (airborne dust)	*C.* Opened lead-soldered cans as liquid storage containers in refrigeration
4. Drinking lead contaminated milk and juices	*D.* Building construction worker who didn't change clothing
5. Greeting dad everyday as he comes in from working at the Construction site	*E.* Pica

FILL IN THE BLANK(S)

Things parents should know about environmental Pb hazards

1. Children between the ages of 6 months - 6 years should be tested at least _________ a year.
A. once B. twice C. three times
2. Parks that consist of _________ are the best places for children to play.
A. dirt B. sand C. grass
3. _____________ from a cigarette is a source of lead poisoning.
A. tobacco B. ashes C. filter
4. Children become lead poisoned by __________ and/or __________ things with lead in them.
A. touching and/or feeling B. eating and/or breathing C. wanting and/or seeing
5. All houses built before before _________ should be tested for lead paint.
A. clean air law B. 1980 C. 1955

For more informatiom contact the
Newark Childhood Lead Poisoning
and Control Program 733 Lead (5323)

Developed by the Department of Health and
Human Services Lead Poison Program
110 William Street, Newark, NJ 07107

Technical assistance provided by the Lead Poison
Prevention Education and Training (PET) Program

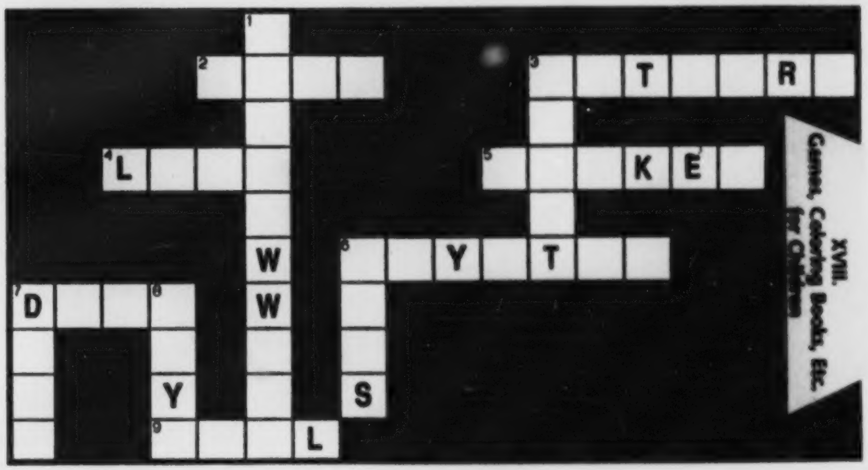
TRUE OR FALSE

Ways children can get lead poisoning in the home

1. Lead can enter the body through ingestion (eating) and inhalation (breathing).	True or False
2. The normal lead level is 10	True or False
3. Lead poisoning is entirely preventable.	True or False
4. Lead poisoning is found only in poor Black or Hispanic Children.	True or False
5. Parents have no real role in lead poison prevention.	True or False

The product was printed on recycled paper
[illegible]

CROSSWORD PUZZLE

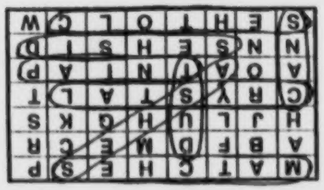


XVIII.
Games, Coloring Books, Etc.
for Children

ACROSS
2. The hand to mouth activity most children do
3. A type of third world import containing lead
4. Pb symbol for
5. Type of fishing equipment
6. A type of glass that has lead in it
7. A place outside that kids play in
9. Area near window children can chew on

DOWN
1. The highest level of lead dust is found here
3 _____________ chips
6. Food container that may contain lead
7. Window wells have high concentrations of the material
8. Kids get them at christmas time

Answers



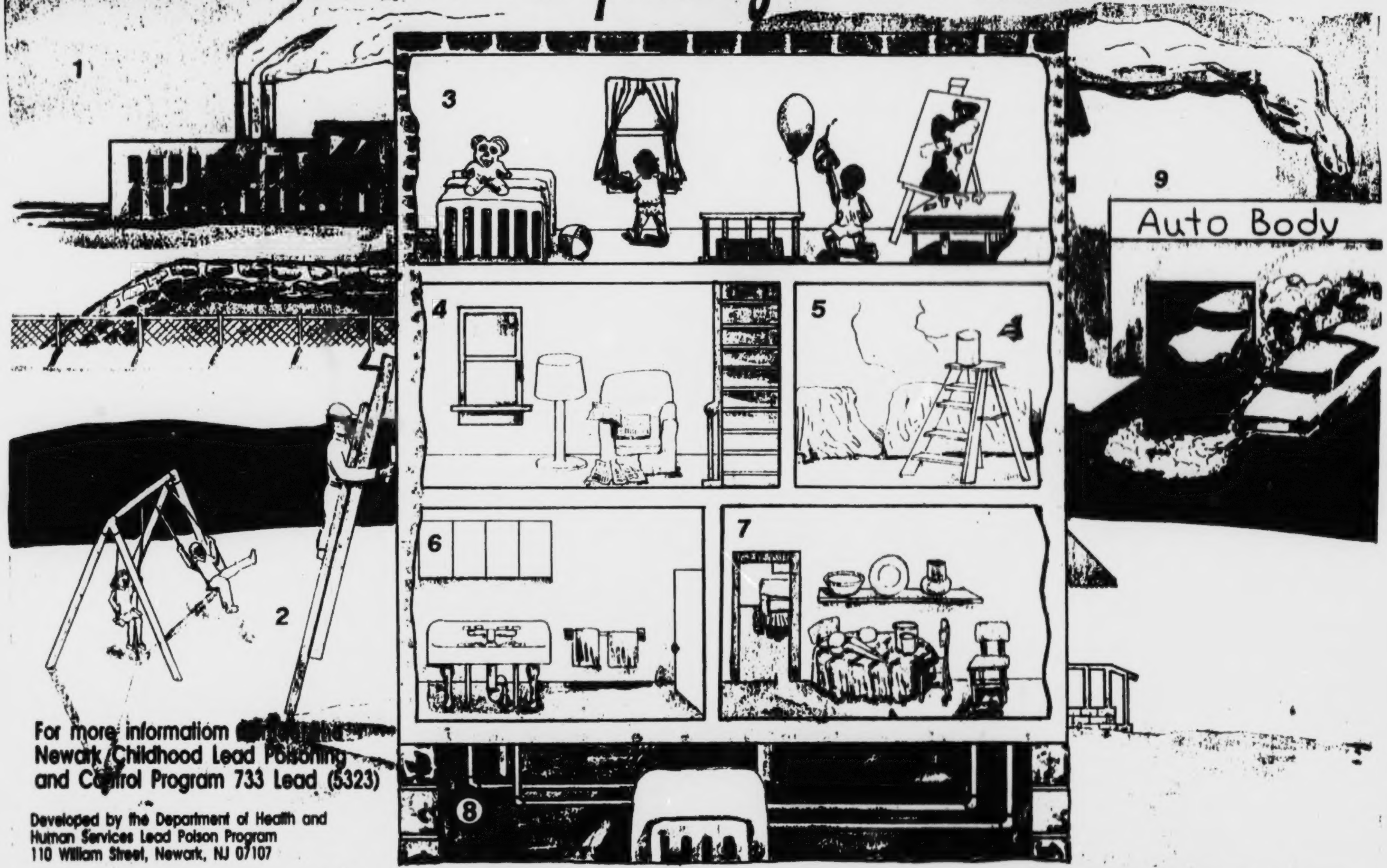
Crossword puzzle
Across 2.Pica 3.Pottery 4.Lead 5.Sinker 6.Crystal 7.Dirt 9.Sill
Down 1.Window well 3.Paint 6.Cans 7.Dust 8.Toys

Fill in the blanks
1. A once 2. C grass 3. B ashes 4. B eating and/or breathing 5. C 1955

True or False
1 True 2. False 3. True 4 False 5 False

Matching game
1 = E 2 = A 3 = B 4 = C 5 = D

Find 16 sources of lead poisoning in the 9 sections below.



For more information contact the Newark Childhood Lead Poisoning and Control Program 733 Lead (5323)

Developed by the Department of Health and Human Services Lead Poison Program
110 William Street, Newark, NJ 07107

Technical assistance provided by the Lead Poison Prevention Education and Training (PET) Program

This product was printed on recycled paper with lead free ink.

Answers

1. Factory fumes 2. Soil in playground area, Scraping 3. Dust on toy, Window sill, Crack in wall, Hobby area 4. Newspapers 5. Renovation work 6. Pipes 7. Pottery, Root vegetables, Cans 8. Pipes and Soldered joints 9. Fumes from Auto Body Shop

BEST COPY AVAILABLE

TITLE: *"Oh, Dread! It's Lead*

DESCRIPTION: A lesson on lead and lead poisoning for grades 4 through 6. The lesson contains a story, information about lead, and a student activity.

INTENDED AUDIENCE: Students 4th through 6th grade.

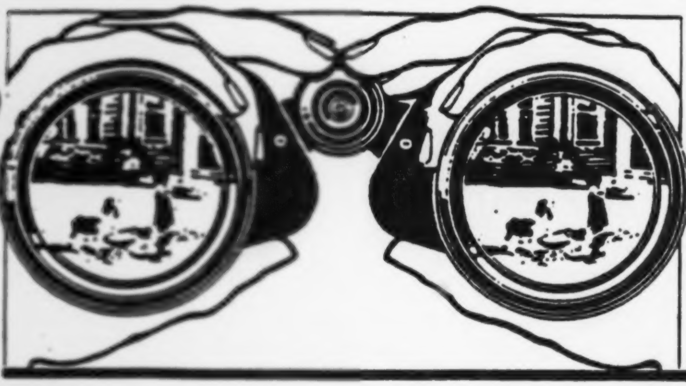
LIMITATION OF THE MATERIAL:

AGENCY: The material is available in New Jersey Outdoors, a publication by the New Jersey Department of Environmental Protection and Energy, 401 East State Street, Trenton, New Jersey 08625. Copies of the magazine's section on Explorer, page 58 of the Winter 1991 quarter are available. For additional information please write or call:

Lead Poisoning Prevention Education and Training Program,
301 South Central Plaza-Laurel Road, Suite 1600
Stratford, New Jersey 08084

CONTACT: Joan Cook Luckhardt
908-329-3429

COST: $4 for the magazine.



Explorer

Oh, Dread! It's LEAD!

It is a dark, misty night. Superman cautiously enters an alleyway where he spots the villain who has kidnapped Lois Lane standing beside a large trunk. The villain suddenly lifts the trunk's lid, takes something from inside and holds it in front of the super-hero. A powerless Superman falls to the ground.

If you're a Superman fan, you know that the villain was holding kryptonite, a mineral from the planet Krypton that leaves Superman helpless. You also know that the only metal that can protect Superman from this reaction to kryptonite is lead.

STOP! IT PROTECTS ME BUT CAN HARM YOU!

Humans have used lead for thousands of years. The Greeks and Romans used lead pipes to carry drinking water. They stored their wine in lead decanters and used lead compounds — mixtures of metals, one of which is lead — as sweeteners and preservatives for wine. Many historians think these factors may have contributed to the decline of the Roman Empire.

Lead is one of the softest metals found on Earth. Because of this and the fact that it melts at a relatively low temperature (327.5° C compared to 1,535° C for iron), it is found in many products and manufacturing processes. Lead is found in the air, in the water and in the soil:

Our bodies absorb lead. That means that when we breathe or eat lead, not all of it passes through our system and comes out in our waste. Some stays behind in our blood, bones and organs. Adults absorb one-third of the lead they breathe and one-tenth of the lead they eat. But young children absorb as much as one-half of the lead they eat.

Lead poisoning occurs when a person's body absorbs too much lead — in other words, when a person's body becomes polluted with lead. Lead poisoning can cause brain damage, coma, convulsions and even death.

To stop lead poisoning we need to change the ways we use and dispose of things containing lead.

Where Does Lead Lurk?

Locating lead in our communities is half of the battle in reducing the amount of lead in the environment. The other half is properly using, recycling or disposing of leaded materials.

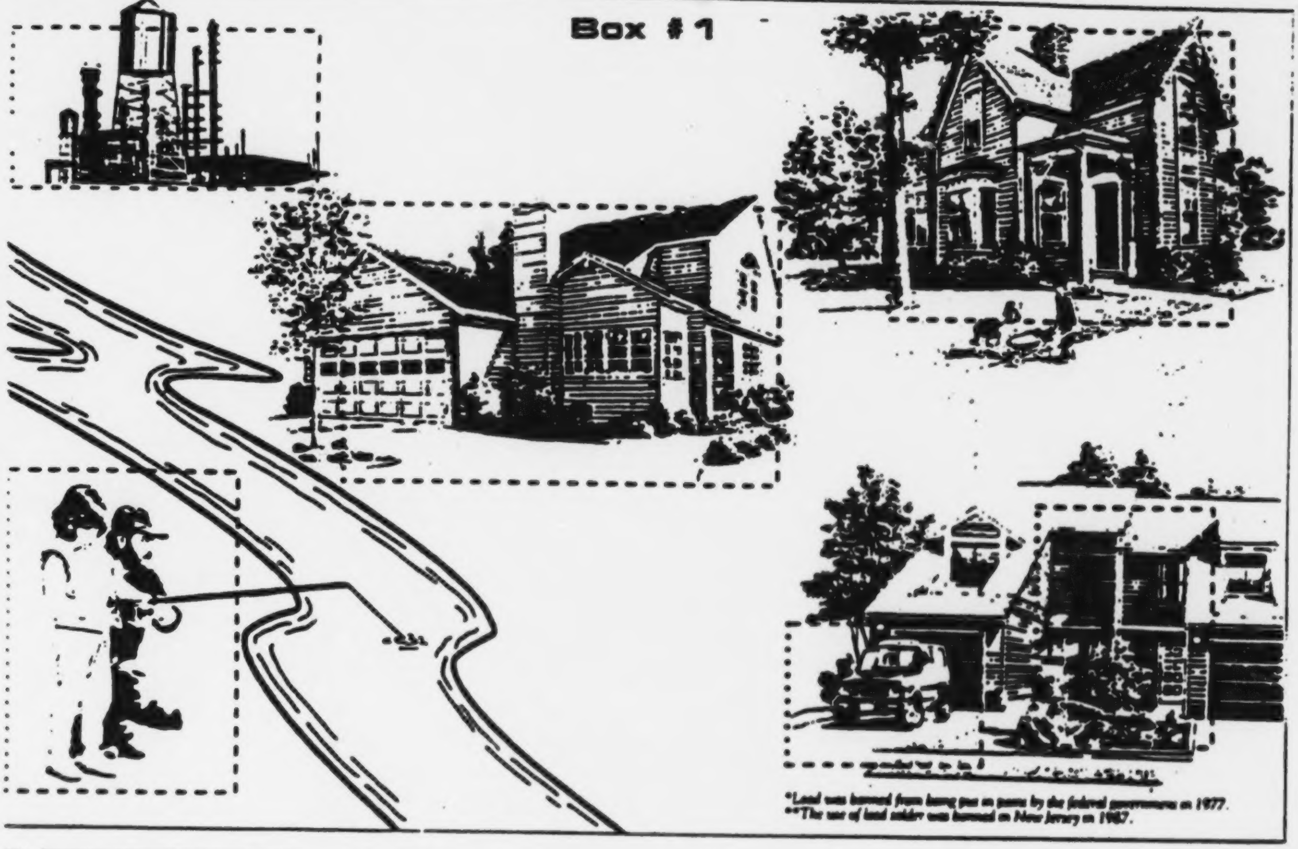
To see where lead may be hiding in your community, cut out both boxes on the next page. Then cut along the dashes and fold along the dotted lines in Box #1. Next, place Box #1 over Box #2 and tape them together. Now just open the flaps and hold it in front of a mirror to see where lead is lurking in your community.

TEACHER'S NOTE

Giving students a demonstration of lead testing can be helpful when you're teaching about the human body in grades 4 through 6, earth science in grades 4 and 5, and physical science in grades 3 through 6. Many companies sell lead testing kits to test the lead content in solder, pipes, ceramics and water. For a complete listing of these companies, refer to Page 378 in the June 1990 issue of *Consumer Reports*, or call DEP's Division of Science and Research at (609) 292-9692.

Explorer by Marlena Glaff-Straw of DEP's Office of Communications and Public Education

Box # 1



*Lead was banned from being put in paints by the federal government in 1977.
**The use of lead solder was banned in New Jersey in 1987.

Box # 2

DIAGRAM BY DENISE BECK

BEST COPY AVAILABLE

TITLE: ***Lead Poisoning Prevention Puppets***

DESCRIPTION: A set of puppets and a script that reflect the ethnic mix of the community where they will be used. The puppetter makes the puppets and tailors the script to the needs of the community.

INTENDED AUDIENCE: Young children (4 to 7 years old)

LIMITATION OF THE MATERIAL: Tends to focus on paint only as a source of exposure, and to secondary prevention.

AGENCY: The material is available from
Karen Schnitsbaum
Little Silver, New Jersey

CONTACT:

COST:

TITLE: Logo Balloons on 24" Sticks

SOURCE: Local Fun-Store

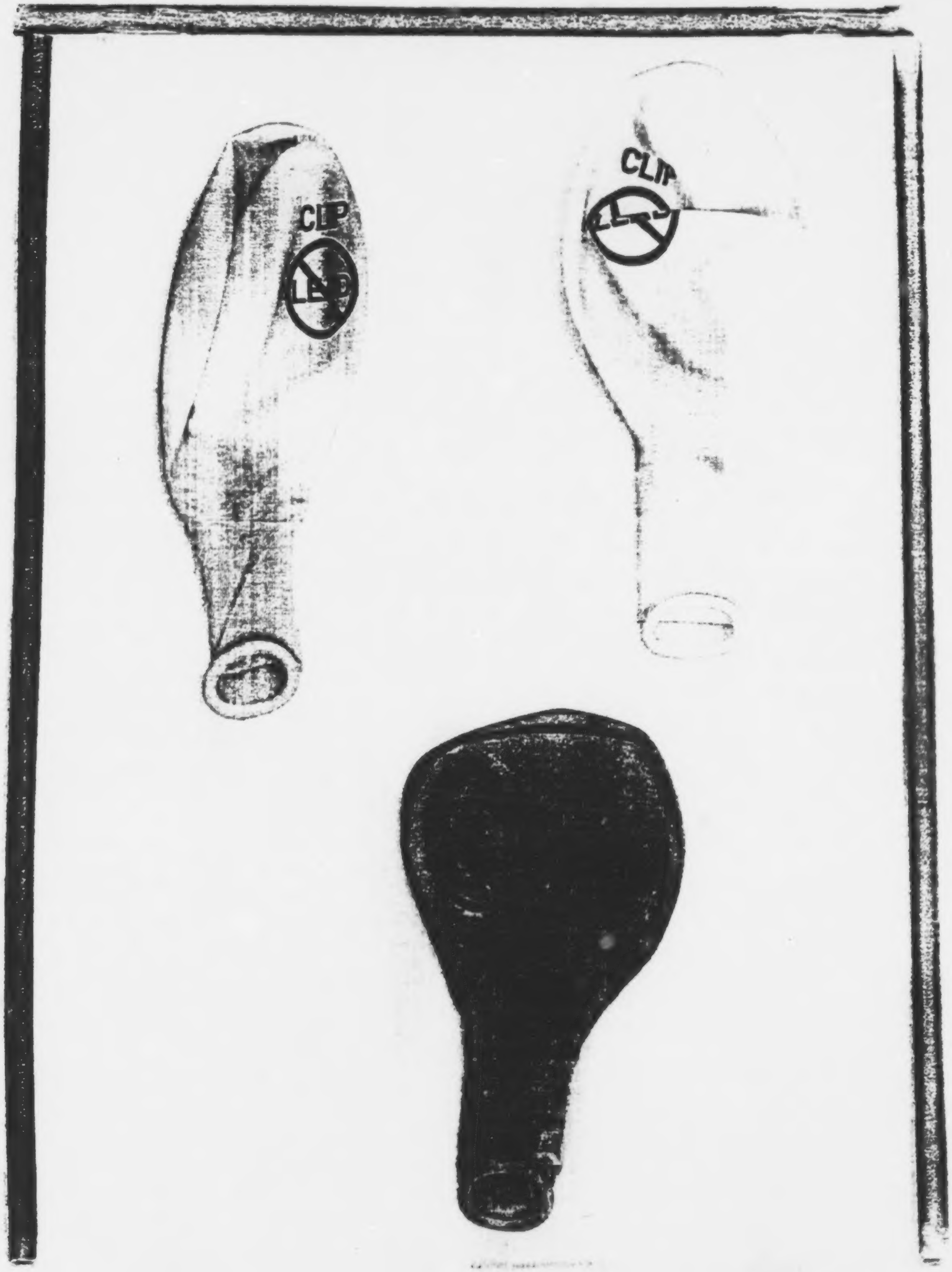
USED FOR: Fairs and Festivals
Neighborhood Programs as give aways to children

COMMENTS: From all sources
"Really pulls in the public"

When we are in this type program and we run out of balloons, the kids don't come, and the literature we give to them does not get to parents.

"A Wonderful Attraction"

No balloons given without literature

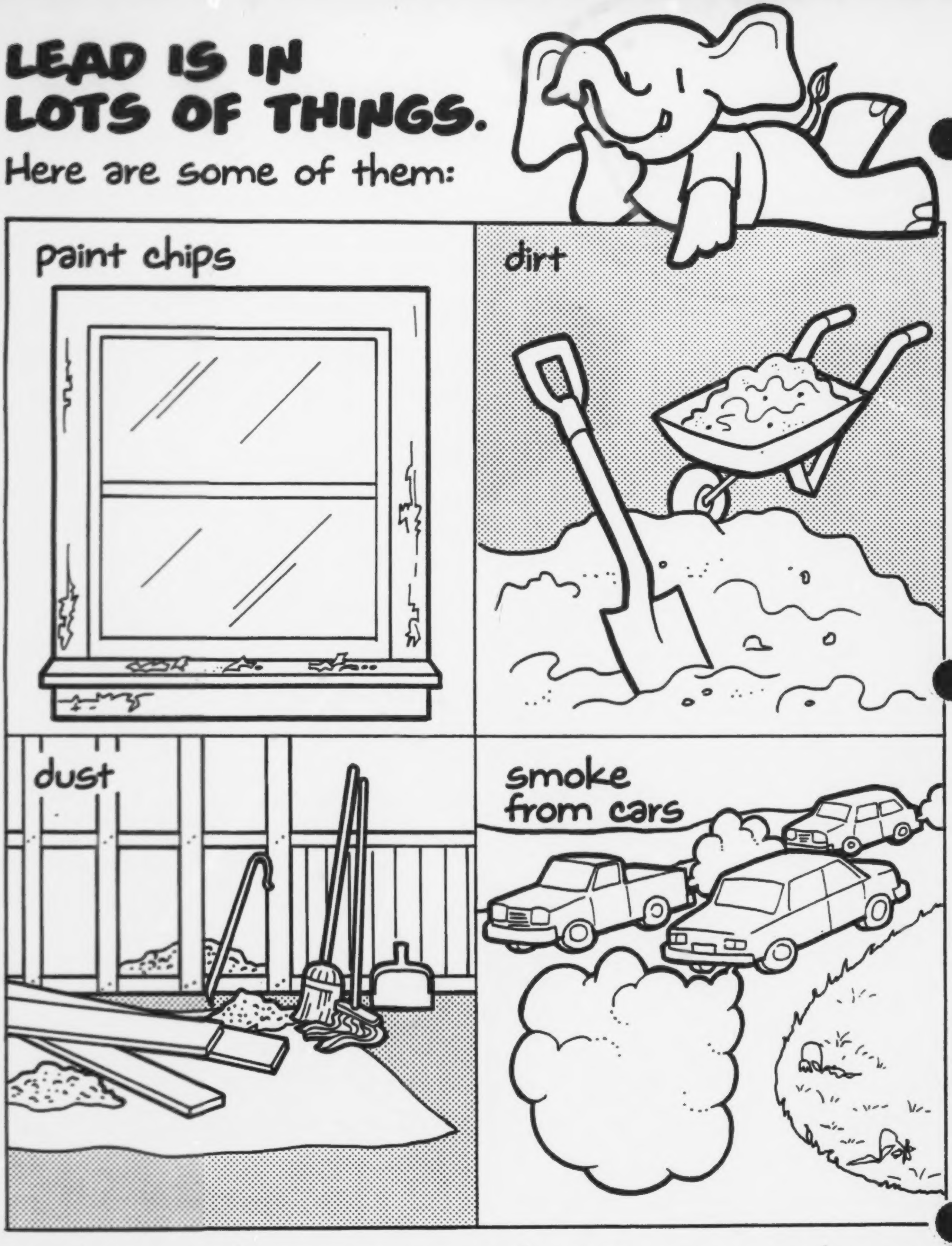

CLIP
LEAD
CLIP

BEST COPY AVAILABLE

MY BOOK about STAYING SAFE AROUND LEAD

LEAD IS IN LOTS OF THINGS.

Here are some of them:



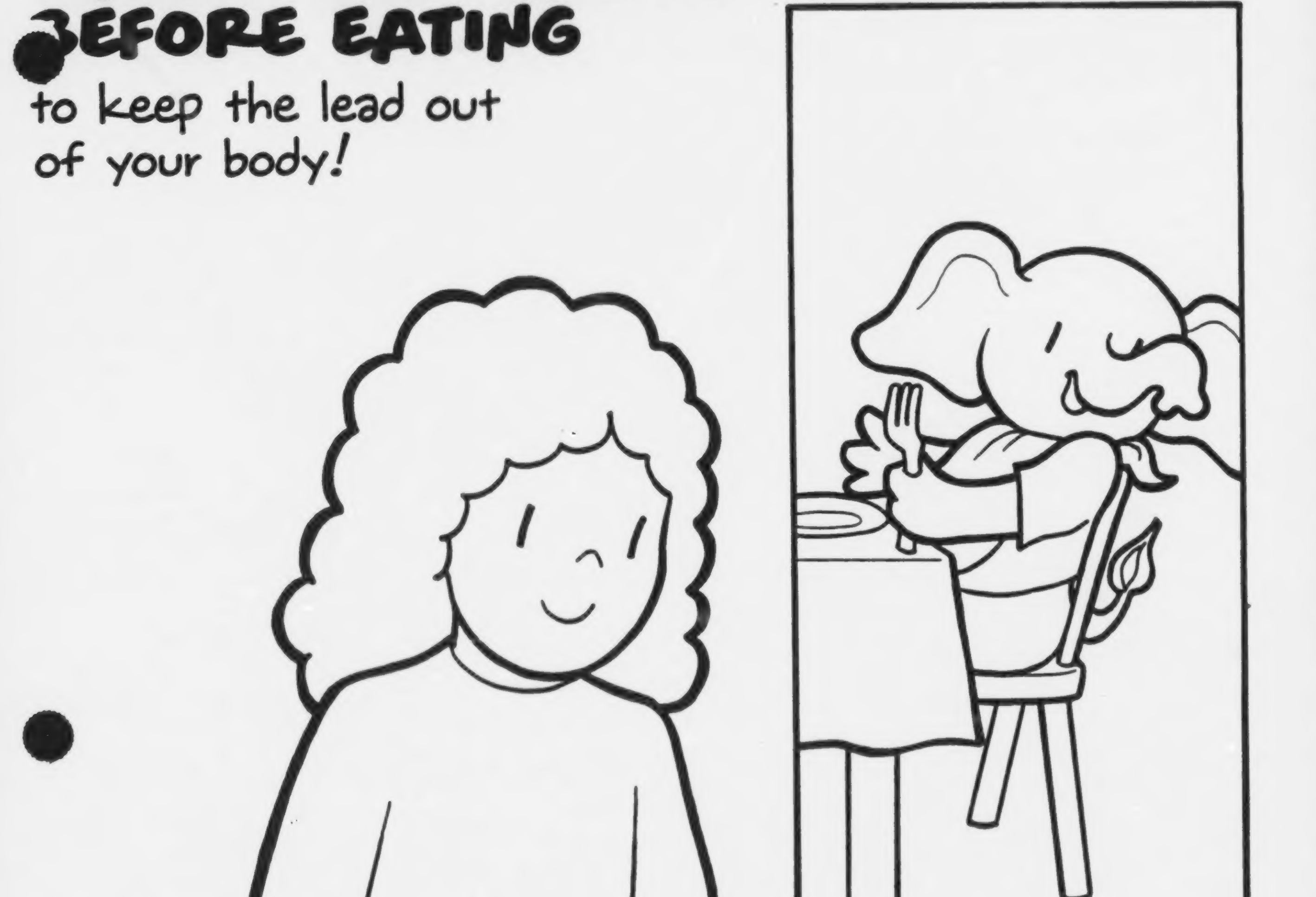
Lead can make you very sick if it gets inside you.

A SCRIPTOGRAPHIC BOOKLET by CHANNING L. BETE CO., INC., South Deerfield, MA 01373 U.S.A.
Lithographed in U.S.A. 1991 Edition 56507A-12-88
To reorder phone 800-628-7733 and request booklet number 56507.

© 1988 All rights reserved.
This booklet may not be reproduced in whole or in part by any means.

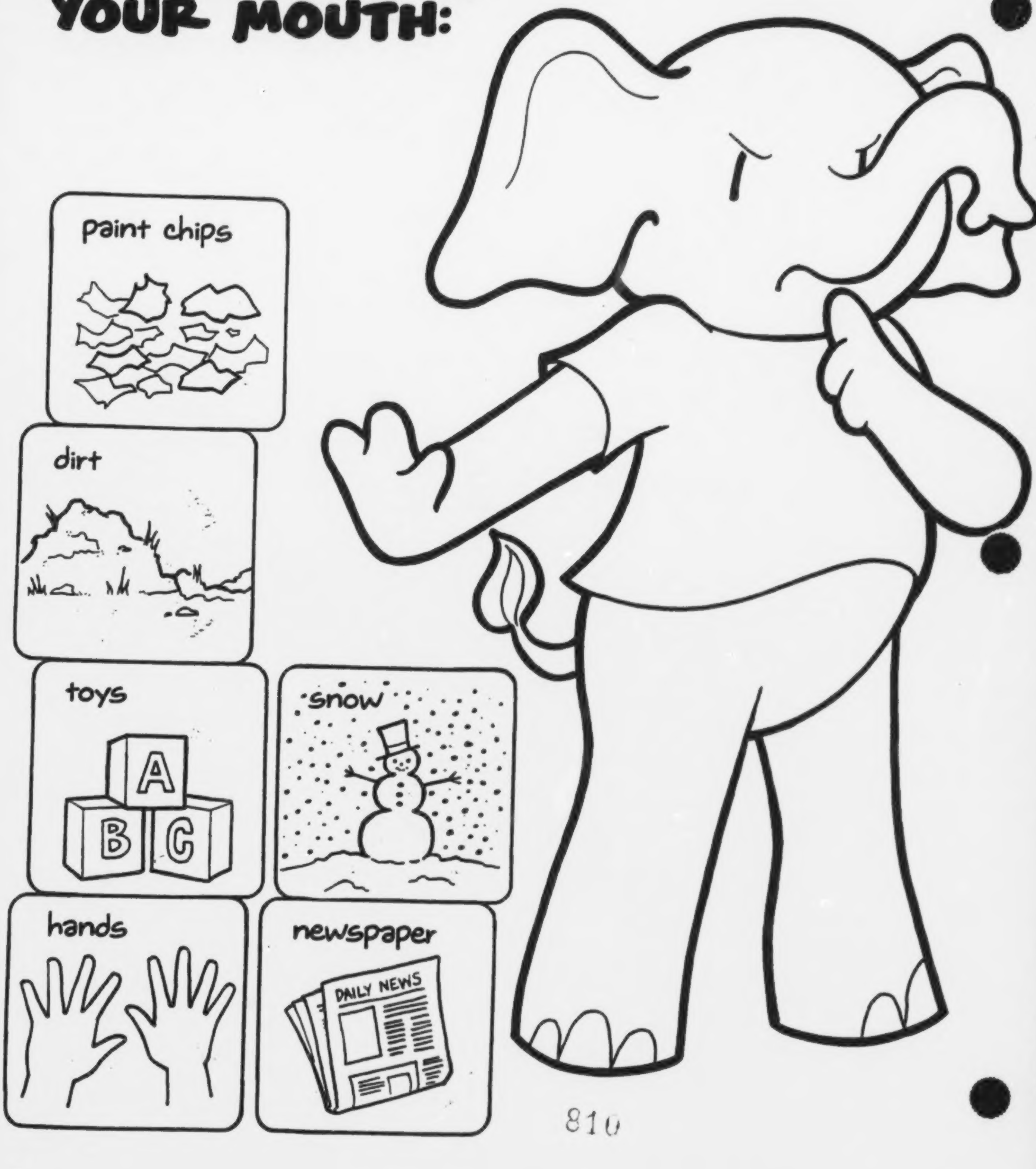
WASH YOUR HANDS BEFORE EATING

to keep the lead out
of your body!

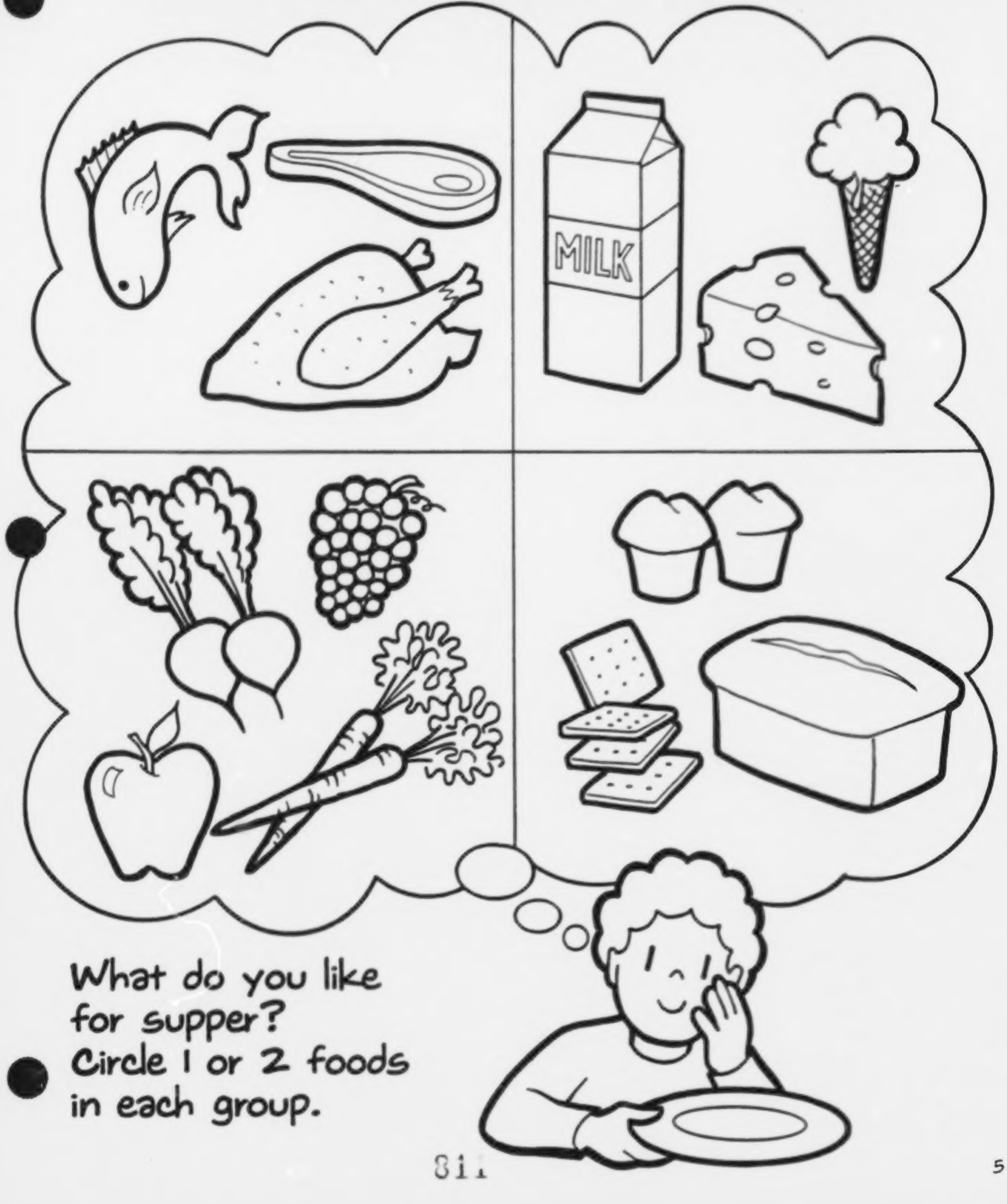


809

KEEP THESE THINGS OUT OF YOUR MOUTH:


paint chips
dirt
toys
snow
hands
newspaper
DAILY NEWS

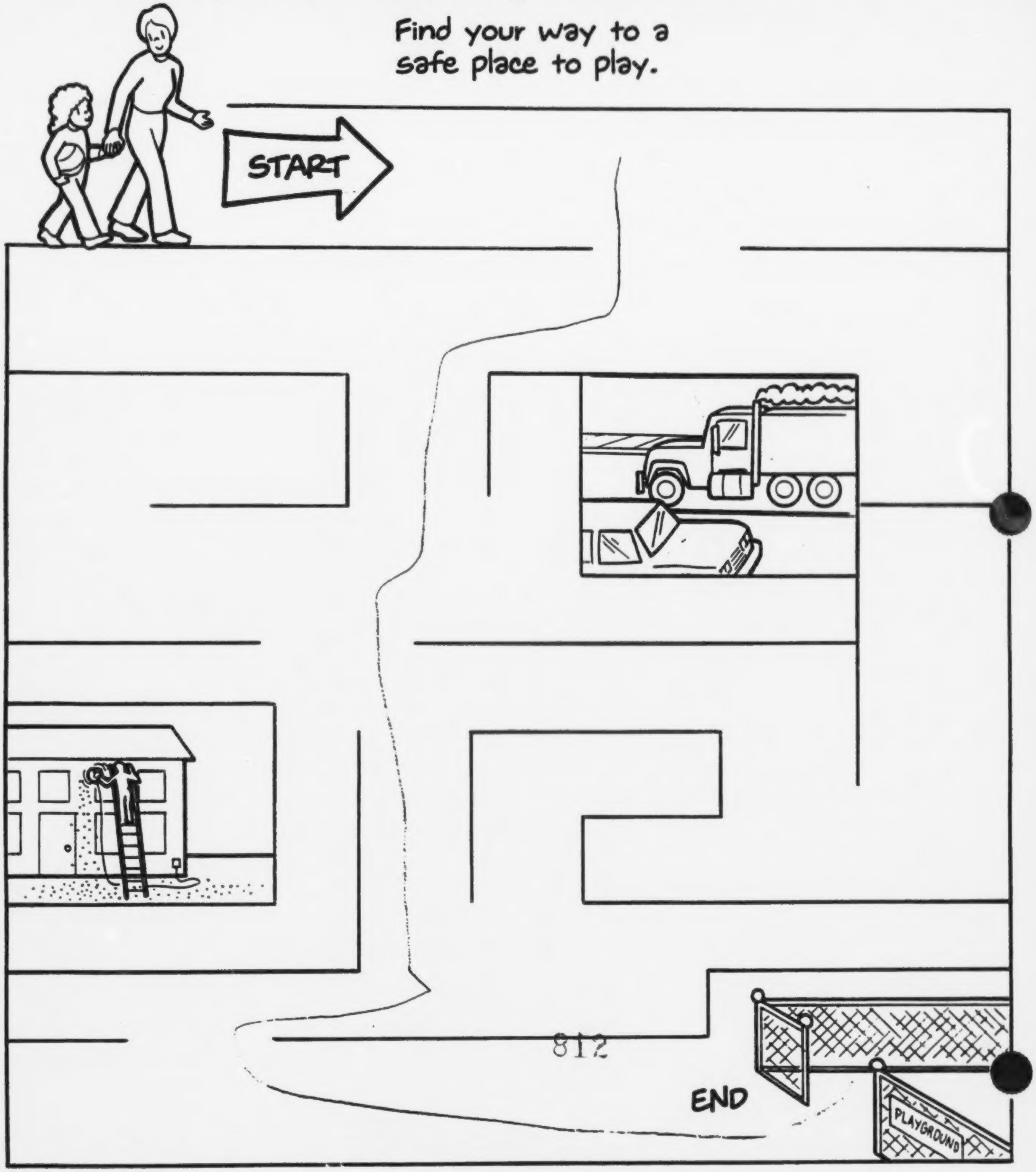
PUT GOOD FOODS AND MILK INTO YOUR BODY INSTEAD.



What do you like
for supper?
Circle 1 or 2 foods
in each group.

PLAY IN A SAFE PLACE.

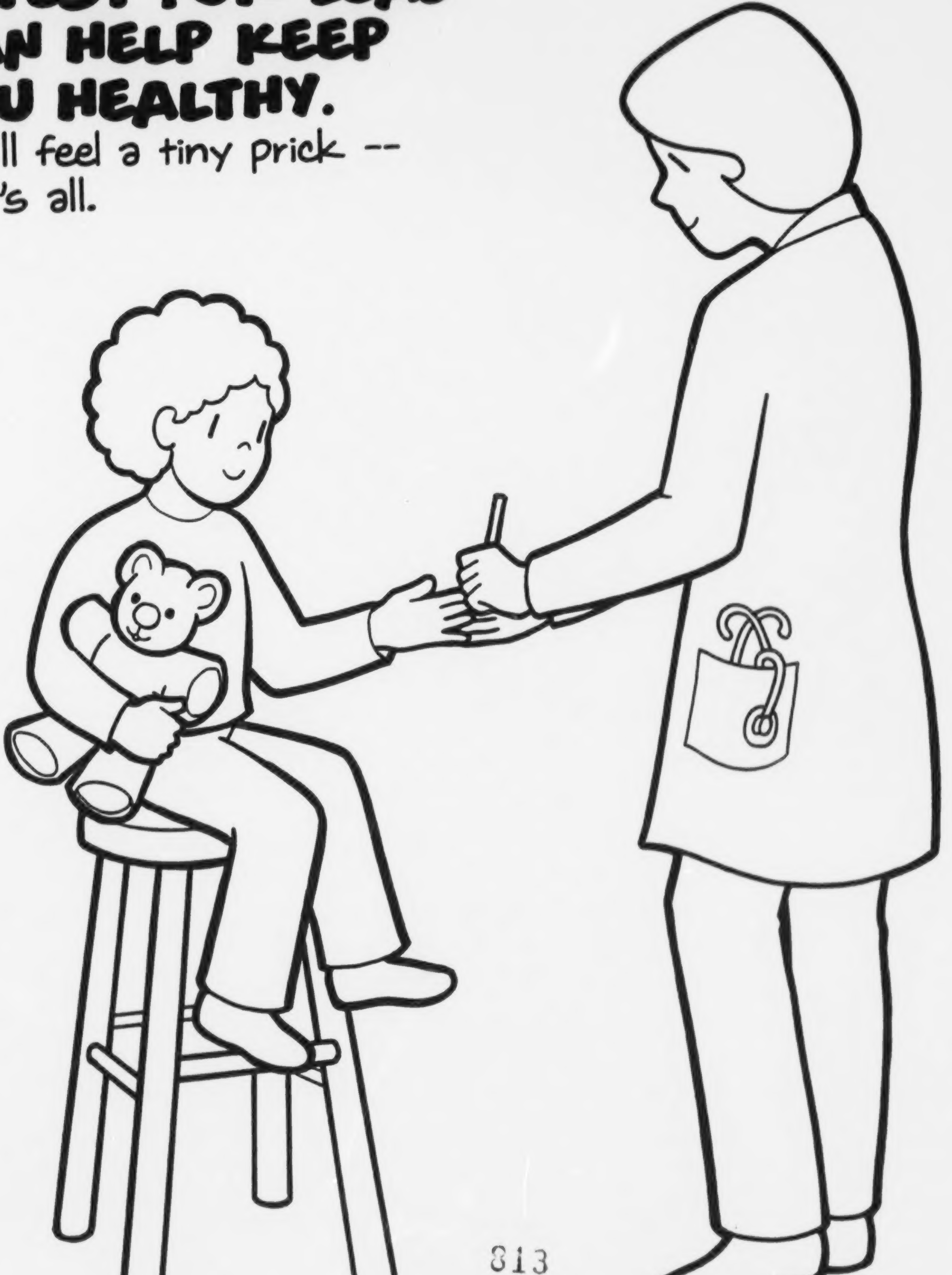
Stay away from the street and any building that's being fixed. Lead might be there!


START
END
PLAYGROUND

Find your way to a safe place to play.

A TEST FOR LEAD CAN HELP KEEP YOU HEALTHY.

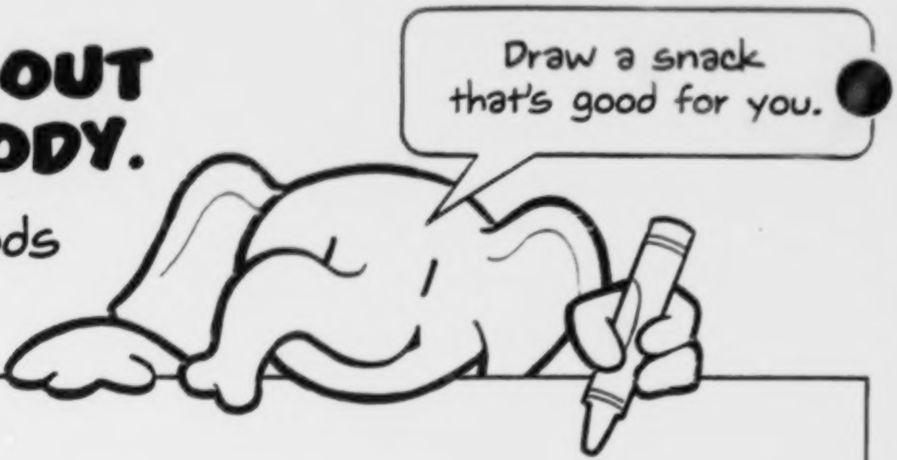
You'll feel a tiny prick -- that's all.



813

Soo--
KEEP LEAD OUT OF YOUR BODY.

Put only good foods into your body.


Draw a snack that's good for you.

814

Printed on Recycled Paper

TITLE: ***Get the Lead Out Curriculum: K-8***

DESCRIPTION: A series of lesson plans, teacher presentations, pre and post tests, and handouts were prepared and field tested. One set each for K-8th grades was developed by the first year medical students from University of Medicine and Dentistry of New Jersey-School of Osteopathic Medicine, in conjunction with the Lead Poisoning Prevention Education and Training Program. The curriculum is now being revised and expanded by LP-PET. It has been shared with the Alliance to End Childhood Lead Poisoning which is adapting it.

Depending on the age of the students, the lessons contain a story, lecture, puppet show script, songs, videos, or overhead storybook. Each lesson has a lesson guide and pre and post tests with answers. There is also an adult presentation

INTENDED AUDIENCE: teachers, parents and children

LIMITATION OF THE MATERIAL: When originally developed, many of the materials used were existing materials that need to be updated. It should be seen as a beginning lesson series.

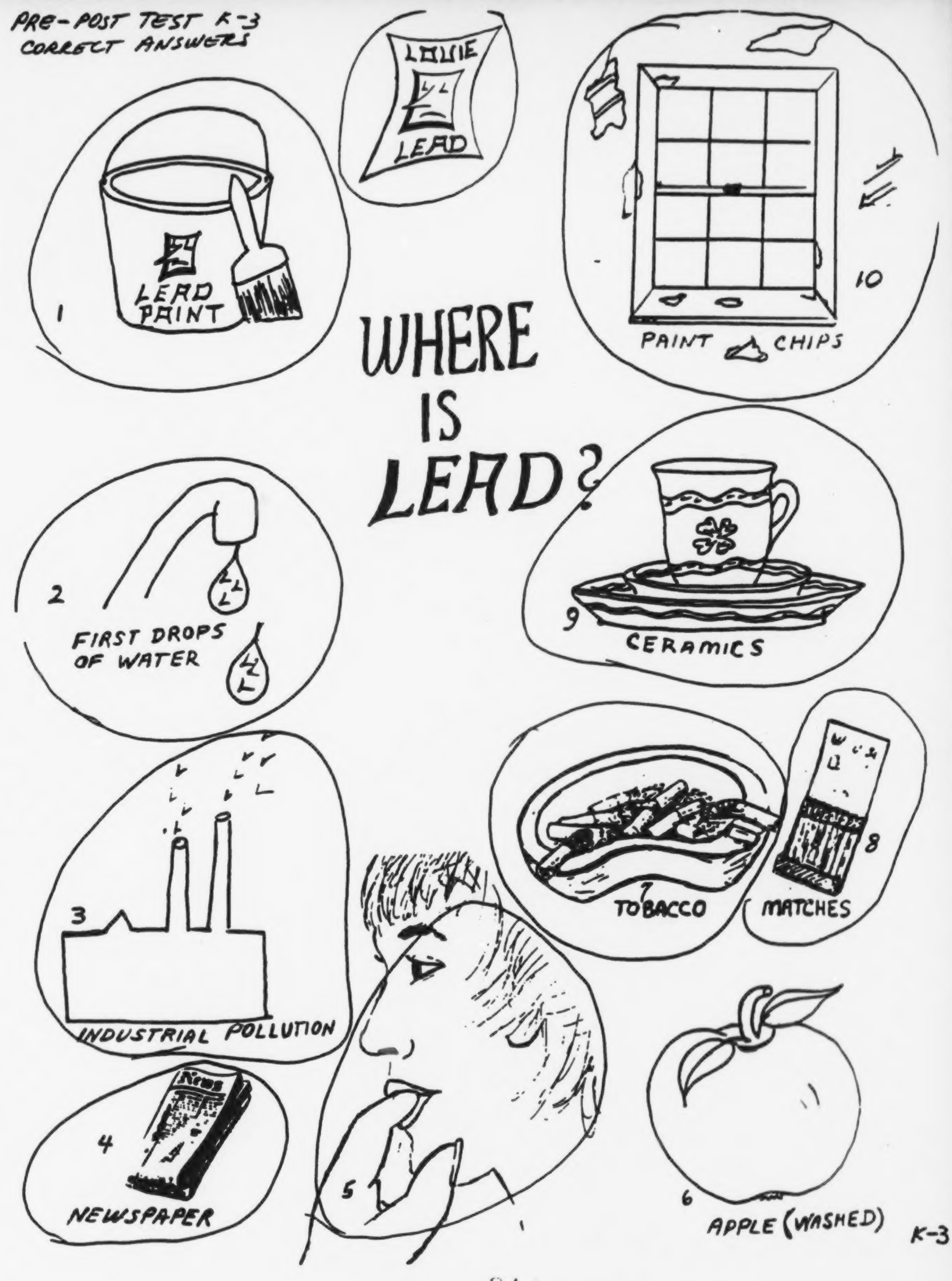
AGENCY: The material is available from the
Lead Poisoning Prevention Education and Training Program,
301 South Central Plaza-Laurel Road, Suite 1600
Stratford, New Jersey 08084

CONTACT: Joan Cook Luckhardt
908-329-3429 or 609-782-6034

COST: None, but quantities are limited.

PRE-POST TEST K-3
CORRECT ANSWERS

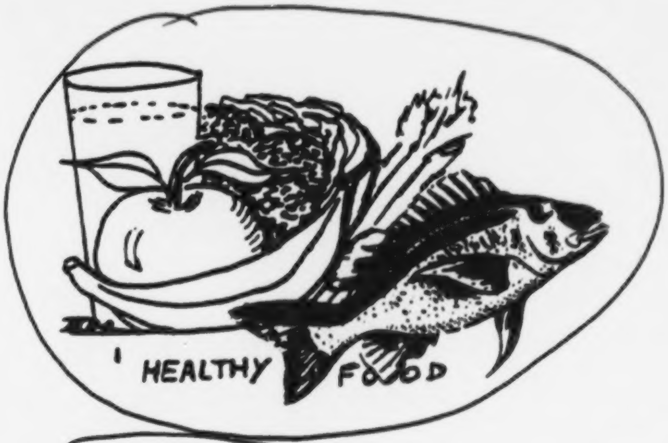
WHERE IS LEAD?

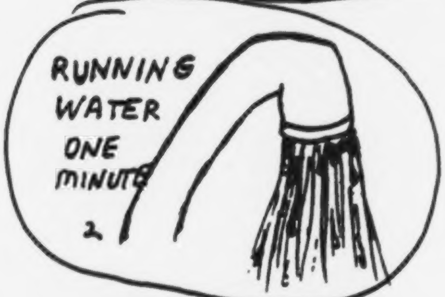

LOUIE
LEAD
LEAD PAINT
1
10
PAINT CHIPS
2
FIRST DROPS OF WATER
9
CERAMICS
3
INDUSTRIAL POLLUTION
7
TOBACCO
8
MATCHES
News
4
NEWSPAPER
5
6
APPLE (WASHED)

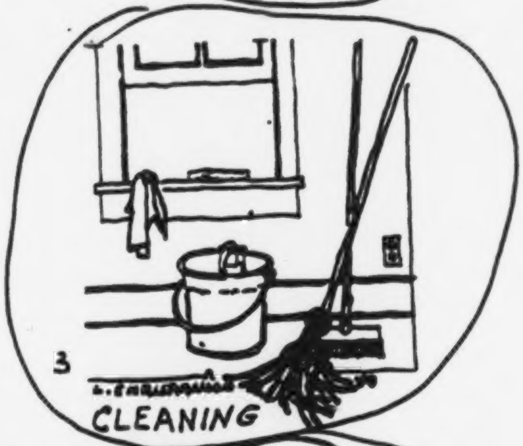
K-3

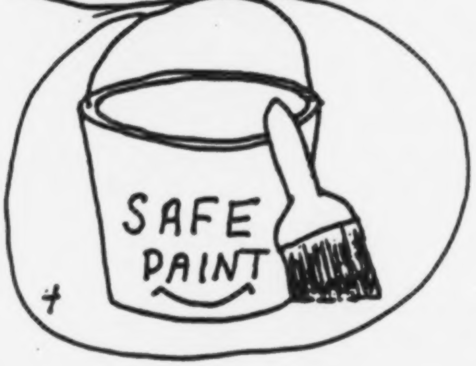
PRE-POST TEST CORRECT ANSWERS K-3

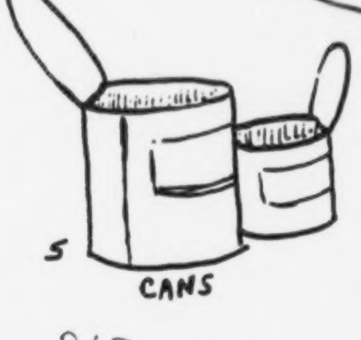
WHAT KEEPS US SAFE ?

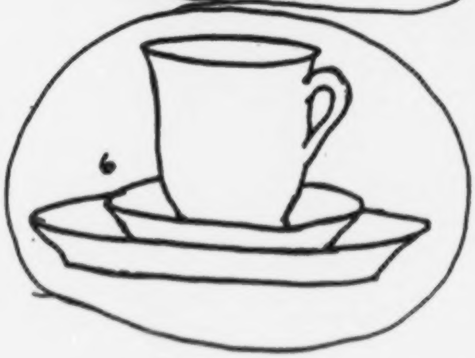

1
HEALTHY FOOD

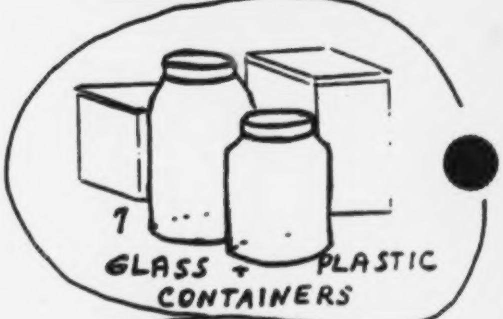

RUNNING WATER ONE MINUTE
2

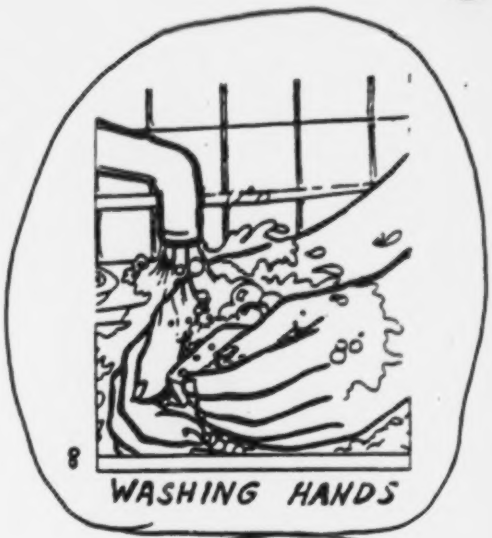



SAFE PAINT
4






7
GLASS + PLASTIC CONTAINERS


8
WASHING HANDS

TITLE: *Under My Roof and All Over Town: Miss Lead's Activity Book*

DESCRIPTION: This black and white booklet contains many games, mazes, and visual activities that encourages parent and child activities. The activity book gives messages about lead such as encourages good nutrition, avoiding lead-based paint, damp-mopping to reduce exposure, and hand washing. The activity book was published by Concerned Parents for Head Start and funded by grants from the MetPath Foundation, and OPMRDD in the Department of Human Services.

INTENDED AUDIENCE: parents and children

LIMITATION OF THE MATERIAL: Detailed information and facts are not included because supplemental brochures are meant to accompany the booklet.

AGENCY: The material is available from the
Lead Poisoning Prevention Education and Training Program,
301 South Central Plaza-Laurel Road, Suite 1600
Stratford, New Jersey 08084

CONTACT: Joan Cook Luckhardt
908-329-3429 or 609-782-6034

COST: No charge at present, but there are limitations on the number that can be shared with a local agency.

UNDER MY ROOF
and all over town
miss lead's
ACTIVITY BOOK

A note to parents:

Our children depend on us for their safety and well-being. Please take the time to enjoy this book and its activities with them. You'll be helping them protect themselves from the dangers of lead-poisioning.

Certificate

This certifies that ____________

knows how to Get the LEAD OUT!

Cecile Dickey

Cecile Dickey
EXECUTIVE DIRECTOR
CONCERNED PARENTS FOR HEAD START

Dr. Joan Cook Luckhardt

DR. JOAN LUCKHARDT
DIRECTOR
LEAD POISONING PREVENTION EDUCATION AND TRAINING PROGRAM

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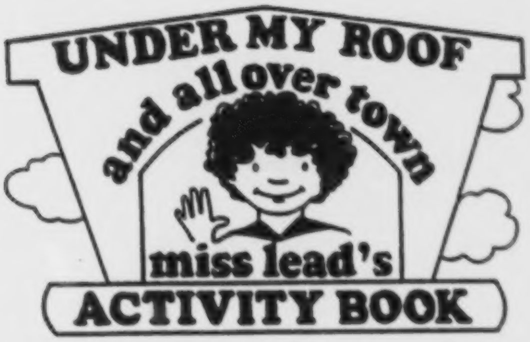
520

GAMES!
MAZES!
Dot to Dot!
Lots of
FUN!

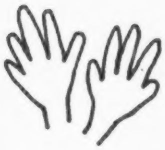


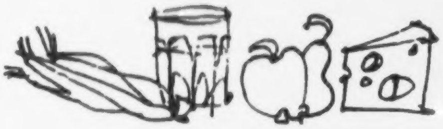
UNDER MY ROOF
and all over town
miss lead's
ACTIVITY BOOK

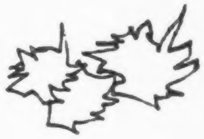
LINDA CHRISTIANSON © 1991

PUBLISHED BY: CONCERNED
PARENTS FOR HEAD START
FUNDED BY: THE OFFICE FOR
PREVENTION OF MENTAL
RETARDATION AND DEVELOPMENTAL
DISABILITIES. NJ DEPARTMENT
OF HUMAN SERVICES.
TECHNICAL ADVISOR:
DR. JOAN COOK LUCKHARDT

Hi Kids! My name is Miss Lead,
so lets learn about LEAD, and
have some FUN while we do!

☐ I wash my  after I play outside.

☐ I eat healthy food. 

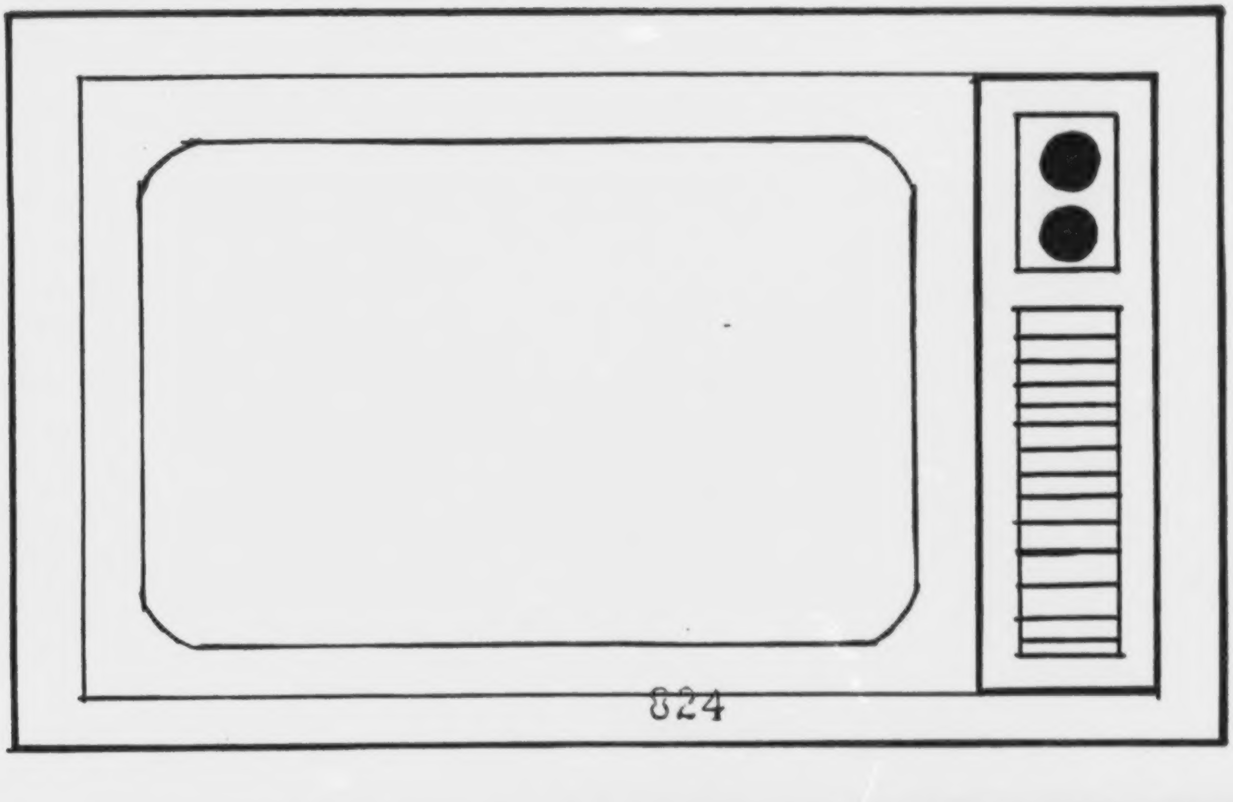
☐ I never put  in my mouth.

☐ I know about the dangers of **LEAD**.

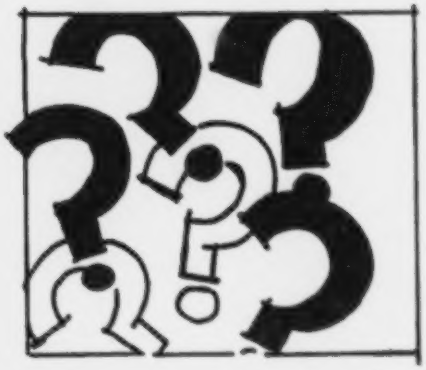
Congratulations! You've learned how to keep Yourself SAFE from LEAD!

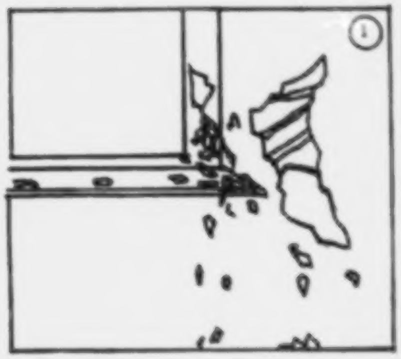
Here's a **LEAD** checklist!

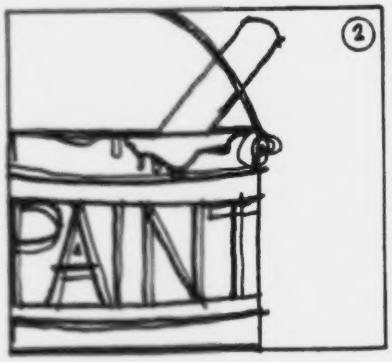
LEAD is dangerous and can't be seen!
See if you can guess where it is in
THESE PICTURES!

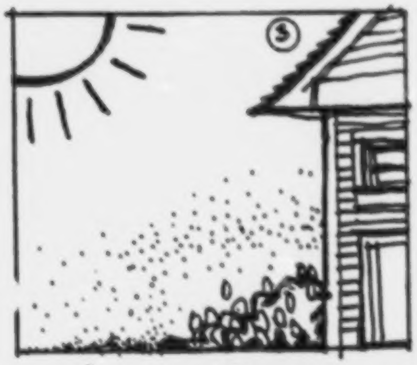


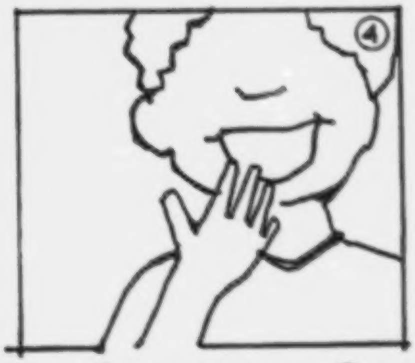
Draw yourself on TV! What could you tell other kids watching about LEAD?

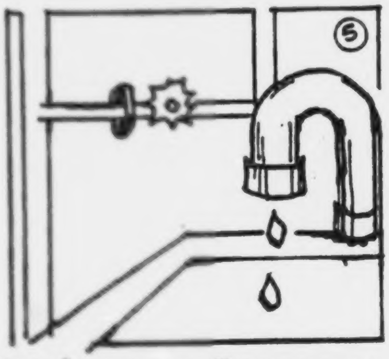






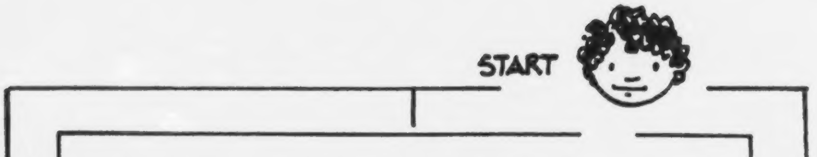


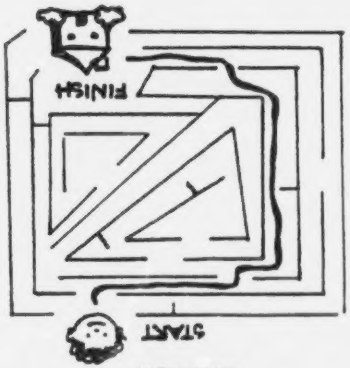




ANSWERS: ① Paint Chips ② Paint ③ Soil Outside ④ Unwashed Hands ⑤ Lead Pipes

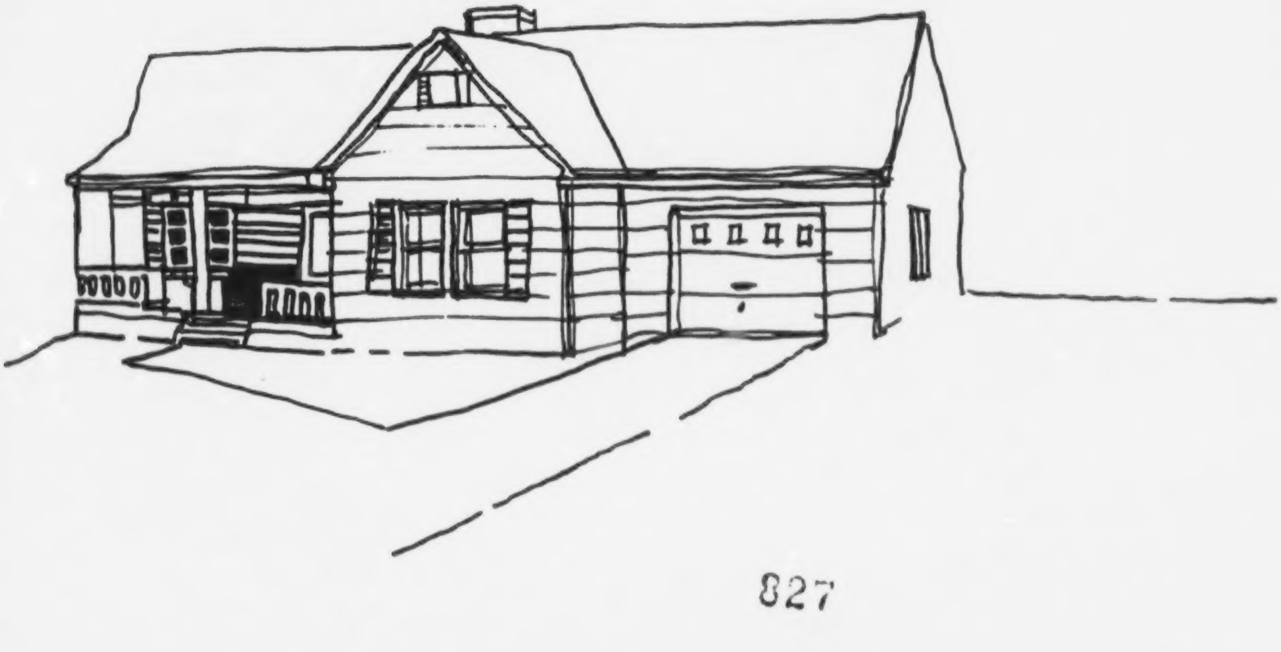
Lead can be in the soil outside our house, so ALWAYS wash your hands after you play outside! Draw some trees and flowers around this house!



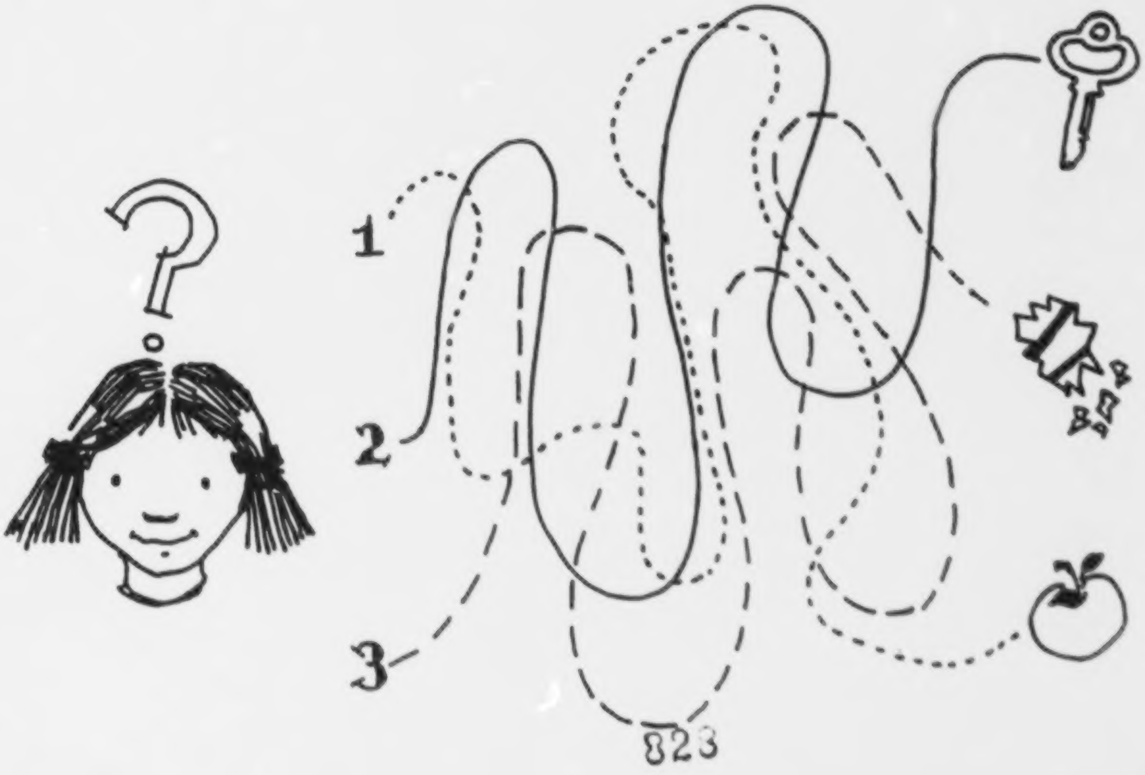

FINISH
START

ANSWER

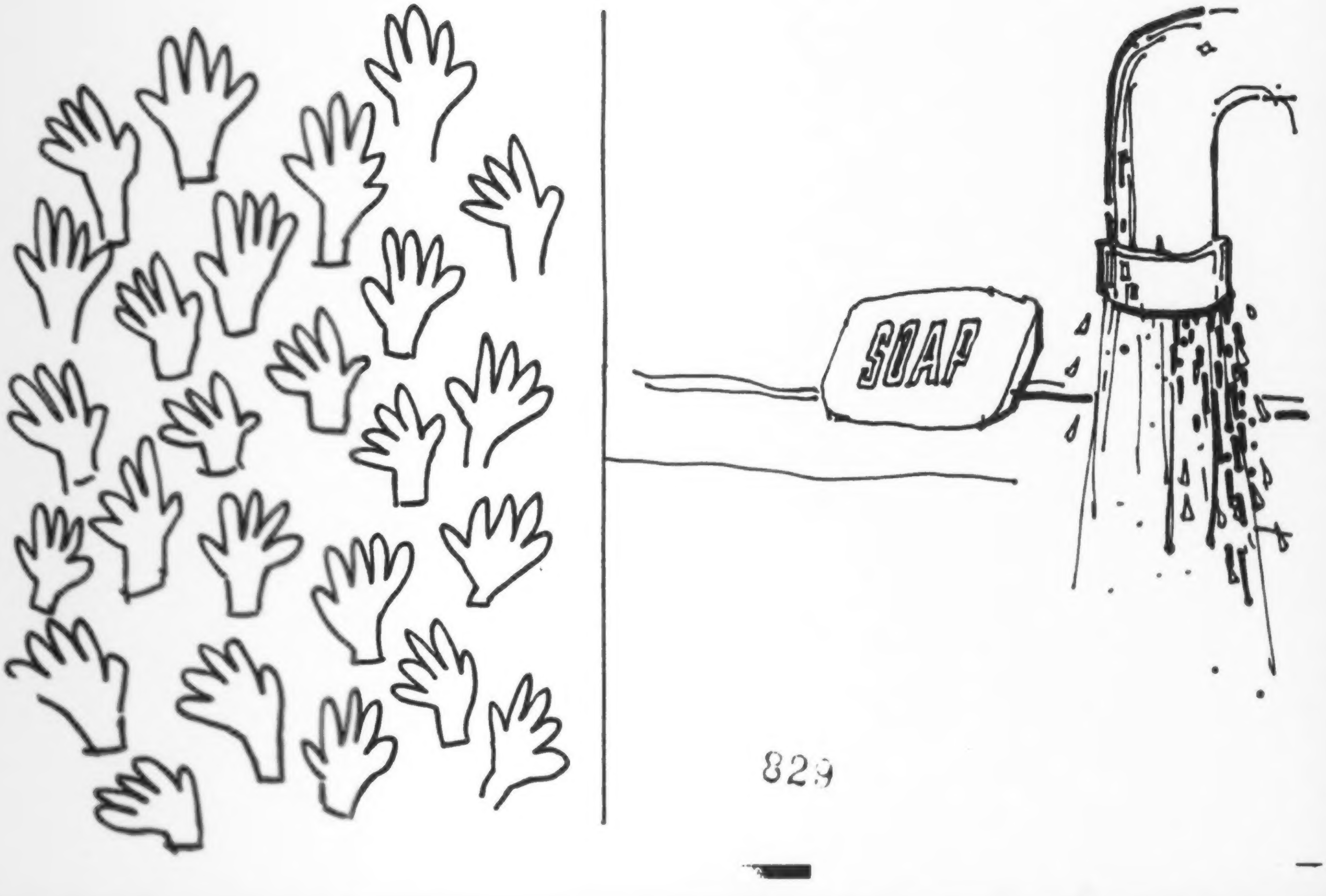
Help Miss Lead find her way Home!



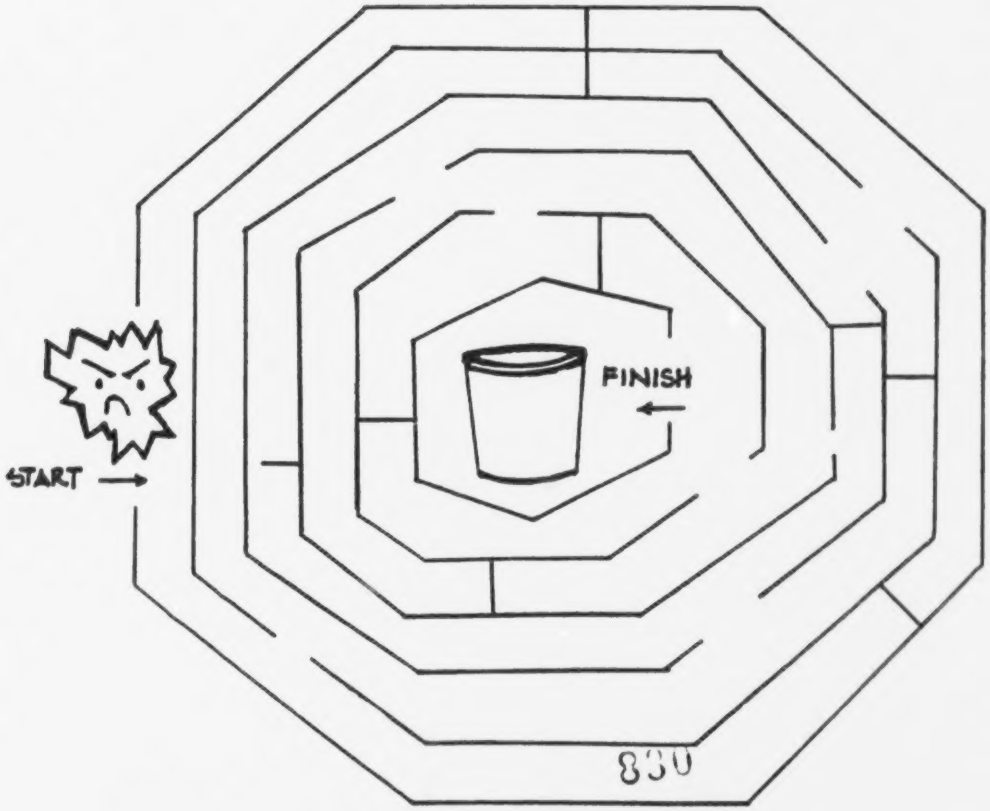
Trace YOUR hand getting washed under the faucet!

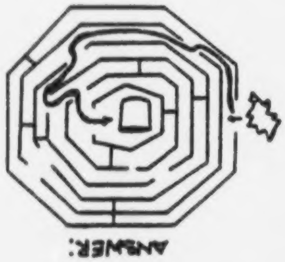


Trace the path that leads Susie
to something GOOD to eat!

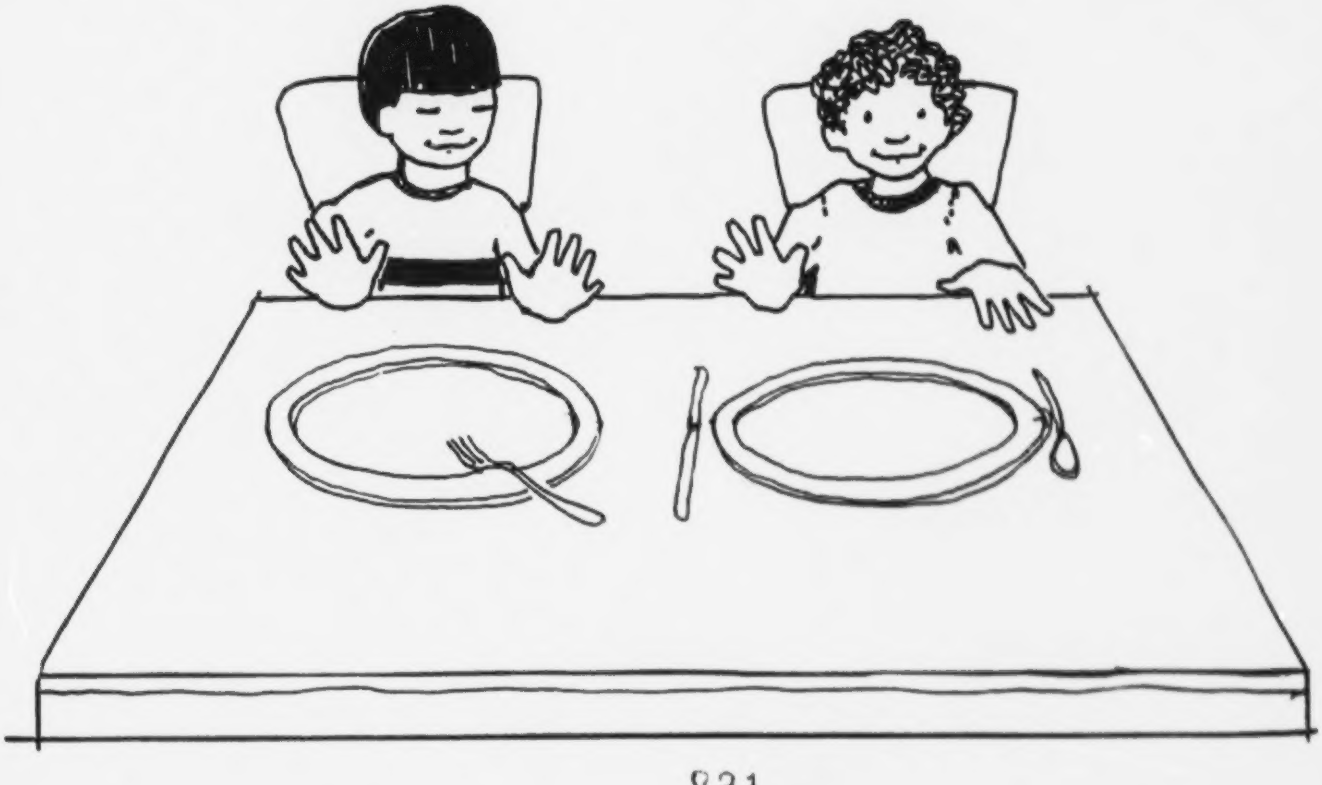


Kim and Bobby have clean hands and are ready for lunch! Draw some healthy food for them!

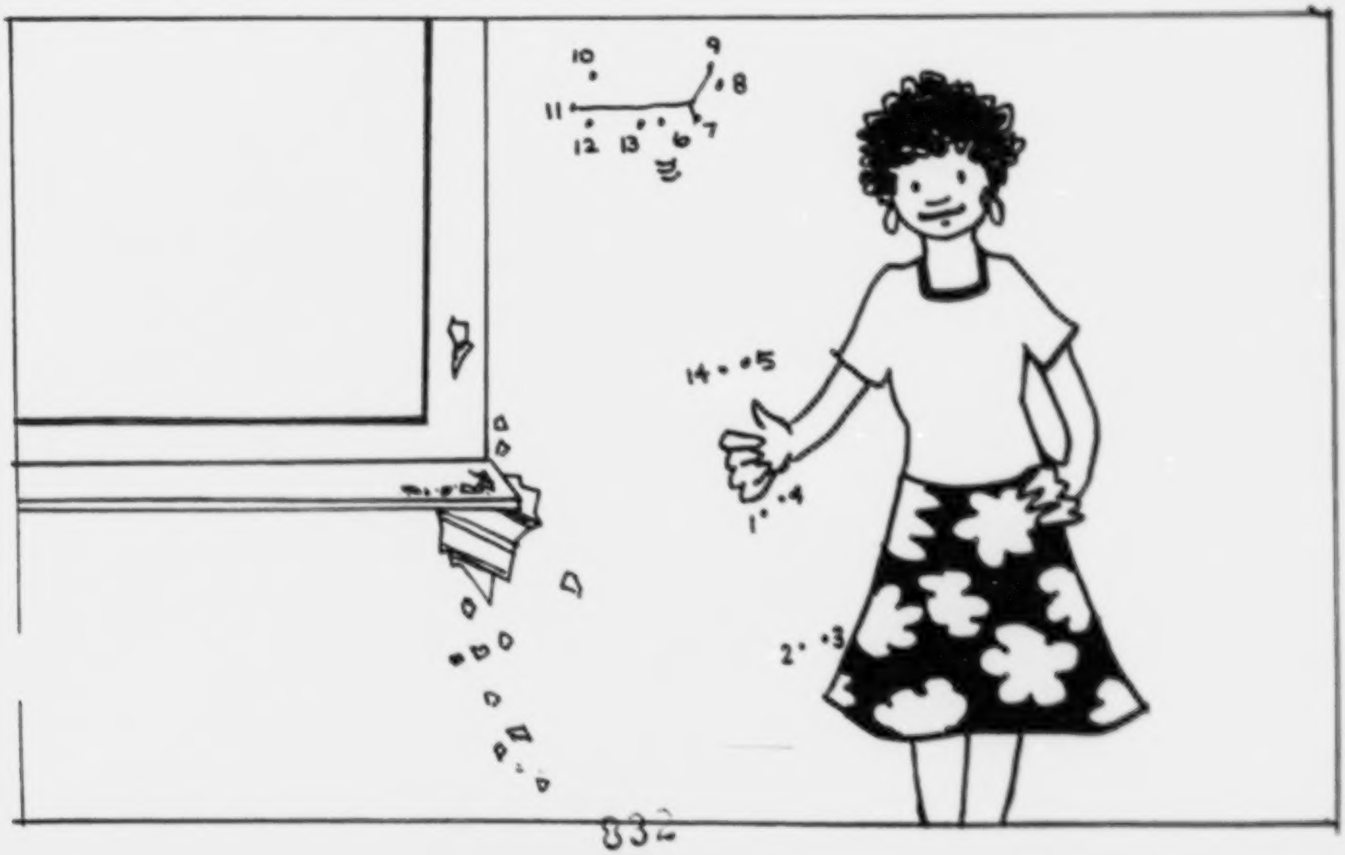

FINISH
START



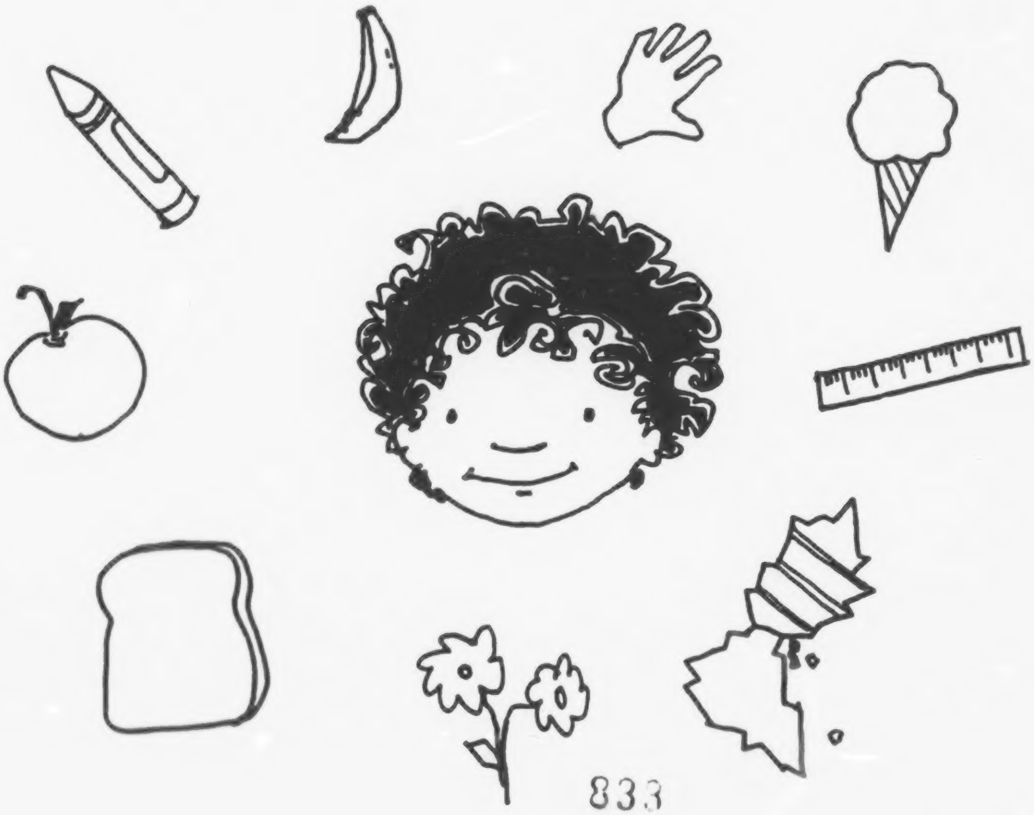
Find the path to get the PAINT CHIP into the GARBAGE CAN!



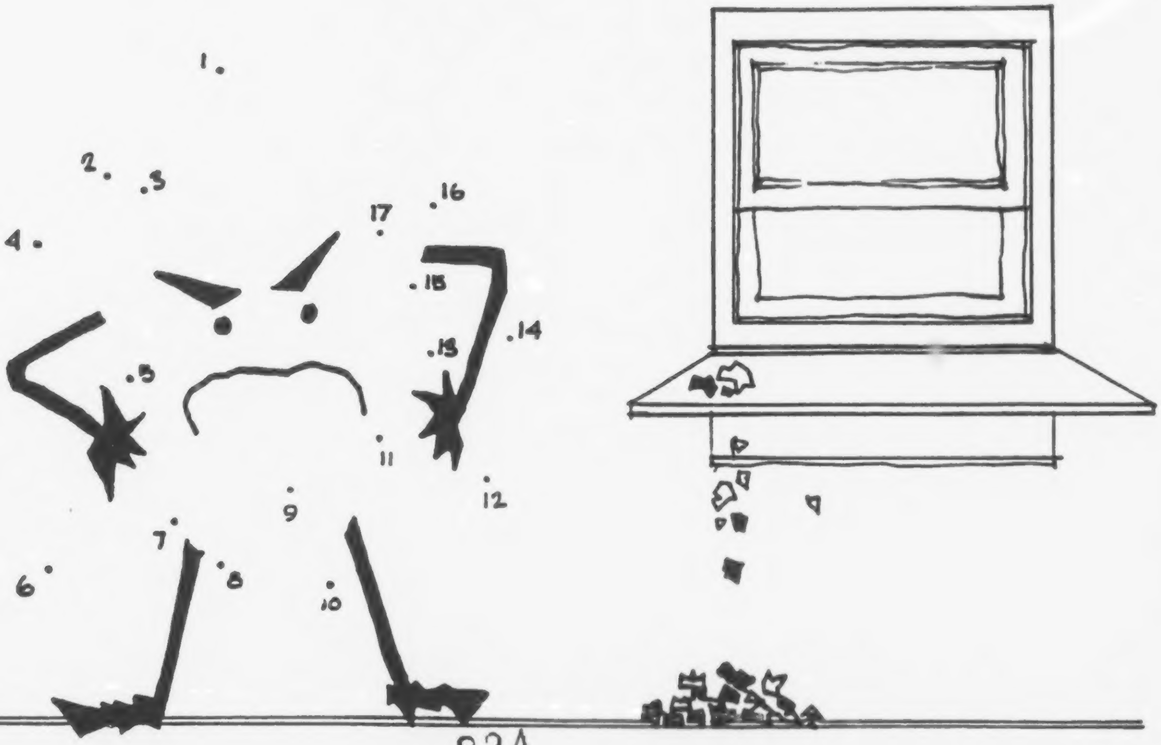
Circle the things that are GOOD for children to eat!


10
9
8
11
7
12
13
6
5
14
5
4
1
2
3

Connect the dots and help Miss
Lead's mom DAMP MOP
the floor !



Paint chips may contain LEAD, so NEVER put them in your mouth! Connect the dots and see what you'll find!


1
2
3
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16
17

TITLE: *Lead Poisoning Prevention Rap Song*

DESCRIPTION: A 3 minute rap song written and sung by Sabrina Johnson and Sister. The song is a bouncy happy song that in an entertaining manner explains the dangers of lead and encourages parents to "wash their hands" to help prevent lead poisoning. The instrumental is repeated without lyrics to allow children to invent their own lyrics.

Sabrina Johnson of East Orange New Jersey, is widely known in Europe and has records in the top 10 in Europe.

INTENDED AUDIENCE: parents and children

LIMITATION OF THE MATERIAL: It is meant to bring attention to the lead issue in an entertaining manner.

AGENCY: The material is available from the
Lead Poisoning Prevention Education and Training Program,
301 South Central Plaza-Laurel Road, Suite 1600
Stratford, New Jersey 08084

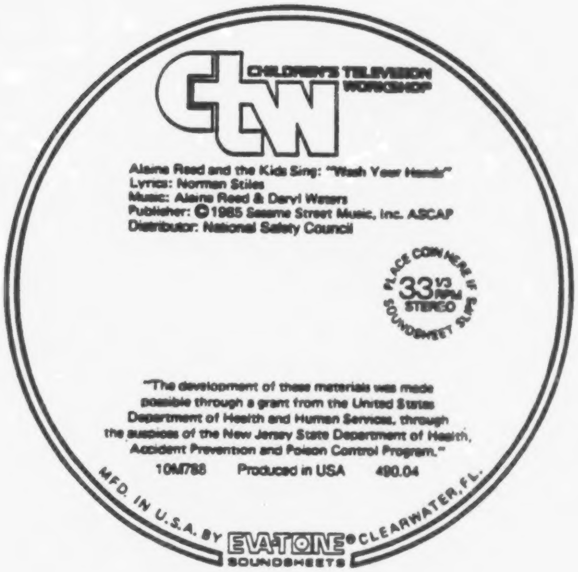
CONTACT: Joan Cook Luckhardt
908-329-3429

COST: None, at present, but supplies are limited. Please include a blank audio tape for copying.

TITLE: Sesame Presents: "Wash Your Hands"

SOURCE: Childrens Television Workshop

DESCRIPTION: 33 1/3 Record



CHILDREN'S TELEVISION WORKSHOP

Alaine Reed and the Kids Sing: "Wash Your Hands"
Lyrics: Norman Stiles
Music: Alaine Reed & Daryl Waters
Publisher: © 1985 Sesame Street Music, Inc. ASCAP
Distributor: National Safety Council

PLACE COIN HERE IF SOUNDSHEET SLIPS
33 1/3 RPM
STEREO

"The development of these materials was made
possible through a grant from the United States
Department of Health and Human Services, through
the auspices of the New Jersey State Department of Health,
Accident Prevention and Poison Control Program."

10M788 Produced in USA 490.04

MFD. IN U.S.A. BY EVA-TONE® SOUNDSHEETS CLEARWATER, FL.

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SESAME STREET PRESENTS:

"Wash Your Hands"

Chorus
Come on and wash those hands children
Before you eat
Come on and wash those hands
Ooh! before you eat
Yeah! got to wash both hands
Before you eat
Wash both hands before you eat
Everybody come on and
Wash your hands

Ya gotta scrub them good
Before you crunch your lunch
Until you get 'em clean
It isn't time to munch
But when you wash 'em well
And you dry 'em too
Then you can touch your food
And you start to chew

Chorus
Wash those hands children
Before you eat
Come on and wash both hands
Ooh! before you eat
Come on and wash those hands
Before you eat
Wash both hands before you eat
Everybody come on and
Wash your hands

They gotta have a bath
Before you take a bite
Before you satisfy
Your little appetite
But once you wash 'em well
That's when you can begin
Yeah! when they're spick and span
It is okay to dig in

© 1985 Children's Television Workshop

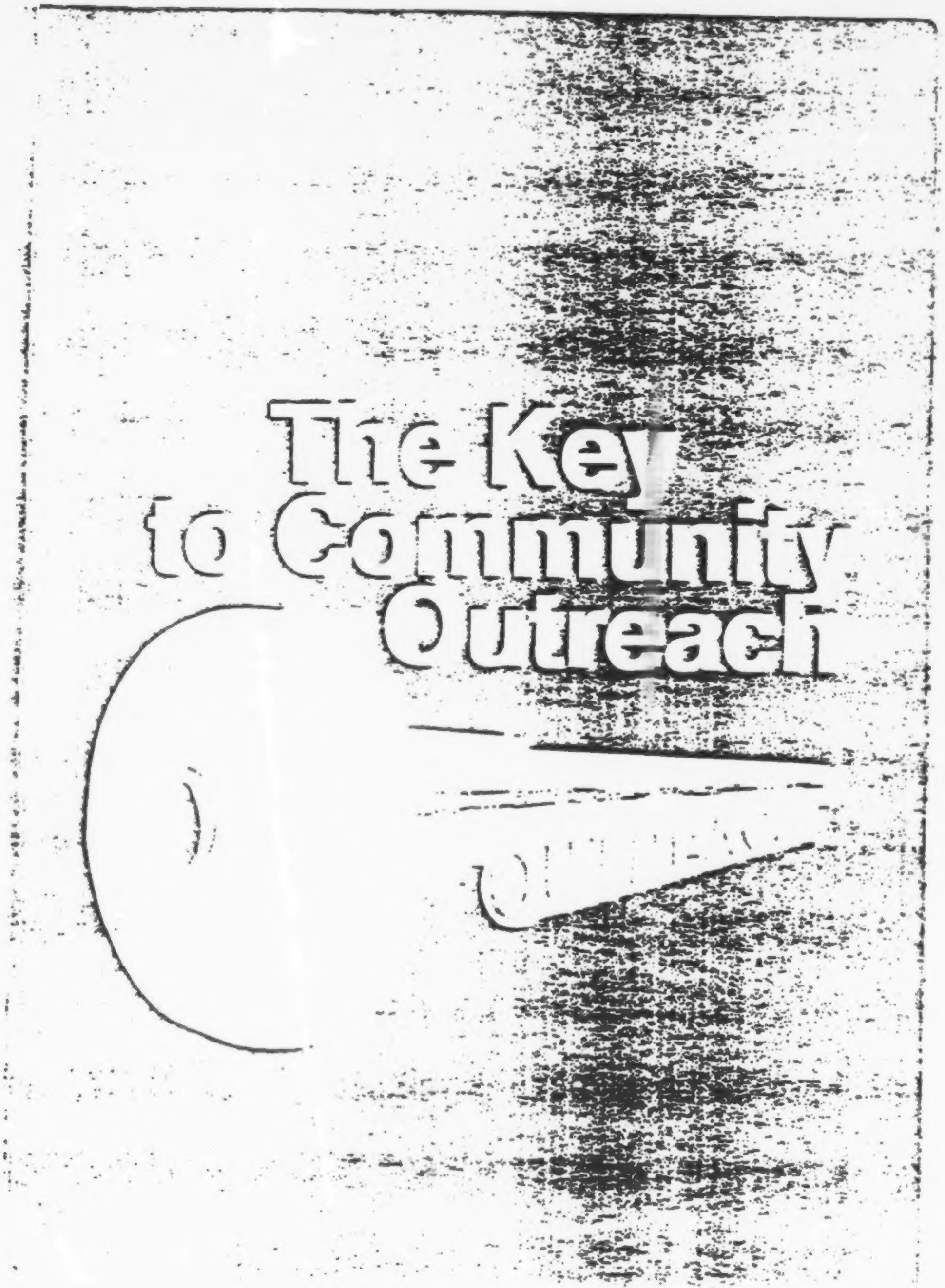
Distributed by: National Safety Council
444 N. Michigan Avenue
Chicago, IL 606011

838

10M788 Printed in USA 490.04-1

XX.
Community Outreach

The Key to Community Outreach has been the standard text on the subject. Although it is now somewhat outdated, its basic principles are sound and it is still one of the best guides available on community outreach. A second draft is in preparation.



The Key to Community Outreach

BEST COPY AVAILABLE

HE KEY TO COMMUNITY OUTREACH

UTILIZATION OF NEW PROFESSIONALS IN COMMUNITY PARTICIPATION PROGRAMS

BY

Rudolph L. Sutton
Randall B. Hirschhorn
Frederick N. MacMillan
Lillian E. Prince

Environmental Health Services
Philadelphia Department of Public Health

I. Shapiro M.D., M.P.H.
alth Commissioner

Arthur Wallach M.S., M.G.A., P.E.
Assistant Health Commissioner
for Environmental Health Services

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- WHY OUTREACH 2
- THE NEW PROFESSIONAL 5

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TITLE: *Get the Lead Out: A Community Discussion Package*

DESCRIPTION:
The package is available in both English and Spanish. It contains print materials, a 20 minute video tape, an audio tape of a "rap" song, and comic books. When available, a child activity and games book is also sent. Originally published in 1989, it has been revised in 1992. The video tape was also revised and a new master cut.
The components of the package are:
I. Print materials

- A. Background articles that include:
    - 1. the health effects of lead (by Dr. Philip Landrigan)
    - 2. environmental sources of lead (by Dr. Robert K. Tucker)
    - 3. how life style choices bring lead into the home (by Dr. Joan Cook Luckhardt) and
    - 4. ways of treating lead poisoning (by Dr. Stephen Marcus).
- B. A Leaders Guide that contains:
    - 1. turnkey information on organizing a committee, setting an agenda, posters, letters of invitation,
    - 2. press releases
    - 3. questions for discussion and
    - 4. a community profile sheet.
- C. New Jersey and national resource list.
- D. Descriptions of programs that work
- E. A glossary

II. Video tape "Lead Poisoning: The Silent Epidemic" an original production that gives an overview of the problem and effects of lead. It is available in English and Spanish. The running time is 22 minutes.

INTENDED AUDIENCE: parents and lay public.
LIMITATION OF THE MATERIAL: It is not meant as a lecture for health professionals; it is meant to give an overview to the lay public and to encourage them to call their local health departments for further information.

AGENCY: The material is available from the
Lead Poisoning Prevention Education and Training Program,
301 South Central Plaza-Laurel Road, Suite 1600
Stratford, New Jersey 08084
CONTACT: Joan Cook Luckhardt
908-329-3429 or 609-782-6034
or call Concerned Parents for Head Start at 201-345-8616
COST: When first published the at cost price was $59.95. The costs of the package are underwritten by a grant from The MetPath Foundation. At present, there is no charge.

LEAD POISONING PREVENTION PROJECT
Attn. J. Luckhardt
385 GEORGES ROAD
DAYTON, NEW JERSEY 08810

GET THE LEAD OUT:

a community discussion package

contains:

- **A 20-Minute Video Tape**
  "Lead Poisoning: The Silent Epidemic"
- **A Leader's Guide**
- **Background Articles**
- **Successful Programs**
- **Glossary and Resources**

GET THE LEAD OUT

Lead Poisoning Prevention Materials
Available at Cost

GET TH LEAD OUT:

A COMMUNITY DISCUSSION PACKAGE

- **A TWENTY MINUTE VIDEO TAPE (VHS)**

"LEAD POISONING:
THE SILENT EPIDEMIC"

This professionally produced documentary video tape introduces the subject to the lay audience in an interesting and informative way. It is hosted by Kent Manahan, news anchor.

The video shows the sources of lead in the environment, describes experiences of people who were lead poisoned, and shows experts describing the health effects and ways to prevent lead poisoning.

- **LEADER'S GUIDE**

The guide is for the lay community leader and the skilled professional, containing materials such as news releases, notes for planning the meeting, questions for discussion, and follow up suggestions.

- **BACKGROUND ARTICLES**

Background articles give an overview of lead poisoning. The reader without prior knowledge of lead poisoning issues can understand them. Among the articles are:

"Health Effects of Lea soning"
by Philip Landrigan, M.D., Director of Community and Environmental Medicine, Mt. Sinai School of Medicine. He chaired the American Academy of Pediatrics Committee that drafted the AAP position on Lead Poisoning. He describes health effects of lead.

"Sources of Lead in New Jersey,"
by Robert K. Tucker, Ph.D., Director, Division of Science and Research, New Jersey Department of Environmental Protection. Dr. Tucker describes sources of lead. In New Jersey he guides research studies on lead in the water, soil and air.

"Habits, Hobbies, and Healing,"
by Joan Cook Luckhardt, Ph.D., Project Director of the Lead Poisoning Prevention Project. Dr. Luckhardt looks at how we can poison ourselves because of our values and behaviors.

"Treating Lead Poisoning"
by Steven Marcus, M.D., Director, Poison Control Center. Dr. Marcus reviews ways of testing for lead in the body, medical interventions, and how lead poisoning can be treated.

- **SUCCESSFUL PROGRAMS**

Nationally recognized successful programs are described and the contact person listed. Among the programs described are Baltimore's lead poisoning hostel that houses families while their home is being abated; lead poisoning puppets; Jersey City's revolving loan program for working poor people who want to abate lead from their ho and a testing kit for ceramics.

- **GLOSSARY AND RESOURCES**

WHERE TO GO FOR LOCAL HELP: NJ Health officers and lead poisoning programs are listed.

"MISS LEAD" A comic book handout for participants. Miss Lead leads the reader around her home and yard looking for sources of lead in her environment. She'll straighten all of us out about the dangers of lead. Each binder contains a package of comic books for distribution.

A THREE RING BINDER contains all the above. It also contains a pocket to carry handouts and for adding more material.

THE TOTAL PACKAGE COST: 59.95

Additional copies of "Miss Lead"
a pack of 50 is $10

Price includes third class shipping and handling charges. For first class postage, please also include an additional 2.50.

Make checks payable to:
CONCERNED PARENTS FOR HEAD START

Send to:
LEAD POISONING PREVENTION PROJECT
Attn. J. Luckhardt
385 GEORGES ROAD
DAYTON, NEW JERSEY 08810

NAME____________________________

PHONE:___________________________

ADDRESS__________________________

Get The Lead Out:

A Community Discussion Package

Project Director:
Joan Cook Luckhardt

Publishers:
Concerned Parents for Head Start
New Jersey Anti-Lead-Poisoning Coalition

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Thanks also to David and Lillian and the fine staff who tirelessly worked with good humor to complete this package.

Deserving recognition and our profound gratitude are the many fine physicians, such as Drs. Anna Haroutunian, John Graef, John Rosen, Anthonia Ty, Steven Marcus, and many others who daily see the painful consequences of lead intoxication and try to ease the pain.

I extend a special thanks to Glenna Gundell and friends at ARC for their suggestions and help.

Lastly, I thank Robert K. Tucker for his tolerance and kindness during the many months of working week-ends and evenings.

JCL

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IMPROVING DIALOGUE WITH COMMUNITIES

Division of Science and Research
New Jersey Department of Environmental Protection

CHILDHOOD LEAD-POISONING INTERVENTION PROGRAM (CLIP)

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Norma W. Stein
Pres. Realty World-Norma Stein Inc

n Warwick
urg Community Action

April 24, 1992

Northside Baptist Church
co Pastor
PO Box 284
Madison Heights, Va. 24572

Dear Reverend:

The members of the Childhood Lead-Poisoning Intervention advisory committee would like to tell your organization about the problem of lead poisoning, a silent disease that can wreak havoc for children. The problem reaches all segments of society, and individuals need to know about it to protect their children.

Read the attached descriptive note, and let us know if you would like a program given for you. We are most interested in any questions you might have.

Sincerely Yours,

Edward H. Hancock, Jr. M.D.
Director

kch/4-21

EXAMPLE: PROGRAM "INVITATION"

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Lynchburg Health Department P.O. Box 6056, Lynchburg, VA 24505-6056 804-947-2328

CLIP

The Central Virginia Childhood Lead-Poisoning Intervention Program (CLIP) began in July 1990 in an effort to prevent the occurrence of developmental disabilities and illness in children due to lead poisoning, a problem which President Bush has described as the "most common and societally devastating environmental disease of young children." The central nervous system effects of lead poisoning as yet have not been shown to be reversible, but are completely preventable.

This program is an effort of the Central Virginia Health Department, with the assistance of a grant from the Virginia Department of Mental Health/Mental Retardation and Substance Abuse Services, to intervene with children who have already been poisoned to prevent further problems and to provide guidance to this community to completely prevent new cases from occurring.

In order to reach our goal, we have established a community advisory board whose members are noted on our letter head. In addition, our efforts have been joined with the Lynchburg Area Housing Coalition because abatement of lead-burdened housing is an essential element of both efforts.

We would like the opportunity to present a program about the prevention of lead poisoning to your organization in order to inform you of:

THE IMPORTANCE OF LEAD POISONING PREVENTION

CURRENT COMMUNITY INVOLVEMENT

and to join in this effort if you so desire.

Please call us at 947-2328 and we will arrange a time for the presentation. The entire program usually takes about an hour plus any time individuals wish for questions.

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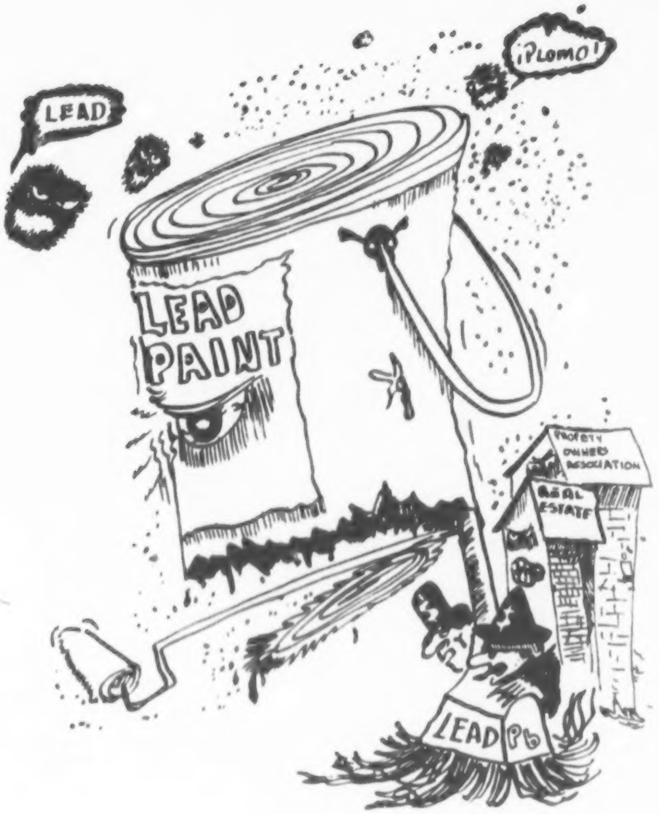
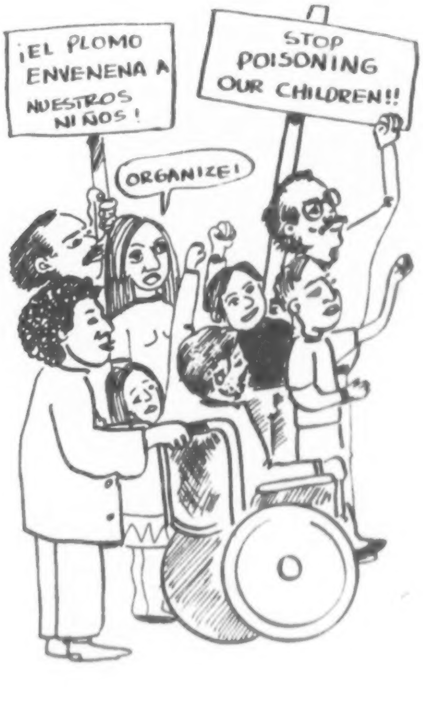
People United for a Better Oakland


LEAD
¡PLOMO!
LEAD PAINT
PROPERTY OWNERS ASSOCIATION
REAL ESTATE
LEAD Pb


¡EL PLOMO ENVENENA A NUESTROS NIÑOS!
STOP POISONING OUR CHILDREN!!
ORGANIZE!

> "People United for a Better Oakland
> has almost single-handledly put
> lead poisoning on the county's agenda."
>
> — *East Bay Express*

Chronology of the Campaign

June 21, 1990

75 members attend a meeting held in Spanish, English and Chinese with Lynn Goldman, Chief of Environmental Epidemiology and Toxicology, State Department of Health. Rafat Shahid, the director of the Alameda County Hazardous Materials and Waste Management, also attends. Goldman agrees during the meeting to release a map of locations in East Oakland contaminated with lead, while Shahid consents to test thirty sites identified by PUEBLO that pose a lead poisoning risk to Oakland children.

June-December 1990

PUEBLO conduct 25 Community Lead Action and Information Meetings (CLAIMS), reaching 472 people in four languages.

July 17, 1990

50 PUEBLO members and their children appeal to David Kears, Director of Alameda County Health Services, to test the thirty sites for lead. Kears agrees to test five by the end of July and the rest by October. He also commits Health Services to screening children for lead poisoning.

July 24, 1990

To test the county's commitment to blood lead screening, 20 members and their children seek the free lead test promised in California state law at Children's Hospital. The children receive the tests, but some families later receive bills for $59.00.

September 25, 1990

PUEBLO pressures Alameda County Board of Supervisors to create a County Lead Abatement Plan. Supervisors require that officials of various agencies work with PUEBLO in drafting the plan.

October 1990

PUEBLO holds a series of meetings with Martha Bureau, director of the Alameda County Child Health and Disability Program (CHDP) after receiving $59.00 bills for the "free" CHDP lead tests. Following negotiations with PUEBLO's Spanish-speaking negotiating team, CHDP agrees to a PUEBLO-designed self-certification form to improve access to the program, to train all CHDP providers around blood lead testing, to produce multi-lingual information about its services and to do outreach in PUEBLO-designated sites.

October 1990

PUEBLO meets with city and county officials to draft the County Lead Abatement Plan.

November 1990

PUEBLO convinces the Oakland City Council to approve in principle participation in the County Lead Abatement Plan.

November 30, 1990

PUEBLO conducts the first of three Health and Legal Professional Education Meeting.

December 13, 1990

Over 200 members and friends attend PUEBLO's Second Annual Community Celebration.

December 20, 1990

PUEBLO files a class action suit with the National Resources Defense Council, the National Health Law Program, the NAACP Legal Defense and Education Fund, the ACLU Foundation and the Legal Aid Society of Alameda County. The lawsuit charges that the California Department of Health and Human Services has failed to enforce the state requirements for lead testing through the CHDP.

January - June 1991

PUEBLO conducts over 100 Community Lead Action and Information Meetings (CLAIMS) in eight languages, reaching 1,736 people.

February 20, 1991

PUEBLO members meet with Oakland City Council member Wilson Riles, Jr. He agrees to support the County Lead Abatement Plan.

PUEBLO & FREMONT HIGH STUDENTS
UNITED AGAINST LEAD POISONING!
NO LEAD OAKLAND
PLOMO

PUEBLO members and Fremont High School students staged a "Get the Lead Out" day in Oakland.

March 6, 1991

PUEBLO members meet with Oakland City Council member Nate Miley. He agrees to sponsor the County Lead Abatement Plan at the Health and Human Services Committee and to support the plan.

March 9, 1991

35 Fremont High School Students join PUEBLO in a special "Get the Lead Out" outreach day.

March 21, 1991

PUEBLO members meet with Oakland City Council member Aleta Cannon, who agrees to support the abatement plan.

March 22-24, 1991

PUEBLO is asked to organize lead projects in Richmond, Los Angeles and San Francisco following the "Organizing for Health Communities" conference.

March 27, 1991

PUEBLO members meet with Oakland City Council member Marge Gibson Haskell, who refuses to support the abatement plan.

April 1991

PUEBLO tries to set up a meeting with Oakland Public Works director Terry Roberts to discuss the city staff's negative reaction to the County Lead Plan. Roberts refuses to meet with PUEBLO, and transfers responsibility for the lead plan to the Office of Community Development.

April 16, 1991

PUEBLO members meet with Oakland City Council member Frank Ogawa, who agrees to support the plan.

April 1991

PUEBLO conducts a door-knocking campaign in Gibson-Haskell's district, and gets over 150 letters of support for the lead abatement plan sent to her.

May 13, 1991

Fifty PUEBLO members and their children go to visit Oakland City Manger Henry Gardner following Robert's refusal to meet with PUEBLO. Gardner agrees to reconsider the lead abatement plan, and to write a staff recommendation to the Oakland City Council.

May 18, 1991

PUEBLO conducts a workshop on lead poisoning at La Clinica de la Raza's Intercambio de la Primavera.

May 22, 1991

A full-page ad in the *Oakland Tribune* paid for by PUEBLO asks "How Long Will Oakland's Children be Poisoned?" and urges passage of the lead abatement plan.

May 28, 1991

PUEBLO testifies at the Oakland City Council Health and Human Services Committee meeting, urging a recommendation for Oakland to participate in the county lead abatement plan. Committee chairperson Nate Miley recommends the plan and request that it be placed on the City Council agenda for that evening.

On [illegible] PUEBLO members and fi[illegible] [illegible]porting organizations turn out to testify in favor of joining the County Lead Abatement Plan at the Oakland City Council meeting. The Council moves to delay the vote.

June 4, 1991

PUEBLO members and supporters return to the City Council. The Council delays the vote again.

June 7, 1991

PUEBLO members meet with Oakland City Council member Leo Bazile who agrees to support the County Lead Abatement Plan.

June 11, 1991

PUEBLO members and supporters testify at another City Council meeting, urging passage of the lead plan. The Council votes to participate in the plan, by five votes in favor, none opposed and three abstentions.

VICTORY!

Oakland joins county in lead-abatement plan

By Judy Ronningen and Brian Johns
Tribune staff writers

The first program on the West Coast to protect children from lead in their homes got a boost when the Oakland City Council agreed to participate, advocates said yesterday.

"We're going to be the cutting edge on this thing — and I think that's important," said Council member Nate Miley, who carried the proposal.

But the cleanup probably will not start until mid-1992 because of delays in starting to collect fees to support it.

The Bush administration has called lead poisoning "the No. 1 environmental poison for children" but there are few programs that help homeowners with the cost of removing lead-based paint from old homes.

"We have so many health hazards in our community, if we begin to deal with them in a piecemeal approach with the county, I think ultimately we will win the battle and lose the war," he said.

Council member Wilson Riles Jr., however, said there was no doubt that the problem existed or about its effect on children.

"If we don't move forward on this, then we're looking at some long time in the future before we do anything," he said.

Miley, who won his first substantive victory on the council with the lead ordinance, said yesterday that the best part is the educational component. He said many doctors receive little treatment in environmental hazards.

> "Once this plan is implemented this means every child in Oakland will be given a lead test. And we want zero (children) to show exposure to lead," said Gwen Hardy of People United for a Better Oakland."

Oakland Tribune

The Oakland City Council voted Tuesday night to join an Alameda County program that would collect $10 per year from owners of pre-1978 homes.

The money will subsidize cleanup at $1,000 per home and pay for testing children for lead and teaching parents and doctors how to recognize symptoms of lead poisoning.

It is the only program of its kind on the West Coast and may be the only one in the country that raises money to help ease the problem, said Rafat Shahid, county environmental health director.

Oakland health advocates, who lobbied more than a year for lead abatement, cheered when the council voted to join the program. There were three abstentions, Mayor Elihu Harris and Council members Dick Spees and Mary Moore.

"Once this plan is implemented this means every child in Oakland will be given a lead test. And we want zero (children) to show exposure to lead," said Gwen Hardy of People United for a Better Oakland.

"Then these children will not have to worry about learning disabilities, hearing problems, language problems or brain damage connected with lead poisoning," she said.

Opponents included the Alameda County Taxpayers Association and Apartment House Association of Alameda County.

Other cities, including Berkeley and Alameda, are still deciding whether to join.

Harris, who called the program "a placebo and symbolic at best" because of the low number of houses to be cleaned, said it made no sense for Oakland to be the only city participating. Initially, about 80 homes would be cleaned.

"One paint chip can be debilitating for a youngster," he said.

Shahid said it is too late to put the $10 fee on property tax bills to be paid this December and April 1992.

The program would start in the 1992-93 fiscal year, which begins July 1, 1992.

Shahid said that will allow time for other cities to decide whether to participate and for the county and cities to organize a joint powers authority to share decisions on how to spend the money.

STOP KILLING OUR KIDS
LEAD POISON

Oakland parents, members of People United for a Better Oakland, demand free lead tests at Children's Hospital

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People United for a Better Oakland

Leading the Way on Lead

By Francis Calpotura

When an organizer from People United for a Better Oakland (PUEBLO) knocked on Ramon Zamora's door and asked him if he knew that his neighborhood was contaminated with toxic lead, Ramon politely said yes and invited the doorknocker inside his house. An hour later, Ramon, a long-time resident of Oakland's Jingletown area, was still talking about the problem of lead and what should be done about it.

PUEBLO demonstrates outside of Oakland City Hall, insisting that City Manager Henry Gardner come out of a meeting and listen to their demands.

Ramon and his four children were tested for lead poisoning during a State of California-sponsored study in 1988. All of Ramon's children had very high lead levels in their blood; Juanita, one of his kids, had a lead count of 80 micrograms of lead per one deciliter of blood. The Centers for Disease Control considers 10 micrograms per deciliter to be the threshold level for lead poisoning. Ramon was furious at state officials for not doing anything after knowing about the problem.

"My children are not laboratory rats!," he exclaimed.

Once Zamora got involved with PUEBLO, he had a way to channel his frustrations with slow-moving bureaucrats and take some constructive action.

Zamora, along with other members of (PUEBLO), managed to turn a seemingly obscure environmental and health problem into a major issue in Oakland. They took a campaign to prevent lead poisoning into the streets of Oakland and into the corridors of power in the city and county governments, and won. After little more than a year of organizing, PUEBLO and its supporters put together a comprehensive Lead Abatement Plan and got it passed by the Oakland City Council and the County Board of Supervisors. This achievement has made PUEBLO the first community organization in the country to propose an abatement program, and successfully pressure the local government to pass it.

Lead Poisoning in Oakland

PUEBLO, a multi-issue, multi-racial community organization that developed out of the CTWO-founded Campaign for Accessible Health Care (CAHC), began organizing around lead in April, 1990.

The 1988 state study in which the Zamora family participated found dangerous levels of lead in the blood of almost two-thirds of the children tested, and that the average lead level in the soil around the houses exceeded the standard to be considered hazardous waste. More than half of residents tested were Latinos, and more than 90% were people of color. But, as the *San Francisco Examiner reported*, "next to nothing [had] been done by city, state or federal governments to protect them from environmental lead poisoning."

In addition, PUEBLO staff organizers had discovered that not only was there a complete lack of public education around the problem, but the agencies who were supposed to be testing children for lead poisoning were not doing their jobs. "I didn't know that the lead problem was as big as it was," said Teresa Barajas, a neighbor of Ramon Zamora and a PUEBLO leader. "When the state people didn't come back after they did all their testing, I thought that things must be okay. It was only after I attended one of the PUEBLO meetings at the church down the street that I knew my children were in danger."

Another PUEBLO leader, Gwen Hardy, told the *Trendsletter* that "the reason why the city, county and state didn't move their behinds to deal with this problem they have uncovered is because we're poor and we have black and brown faces. Those people in power don't think that our children are as special as those who are more well-off, who make big campaign contributions and who look different from us. Well, PUEBLO had to teach them a lesson on how real grassroots democracy ought to be!"

"The most important and emotional issue, the one that gets people moving, is their kids," said Sandra Davis, current chief organizer for PUEBLO, in an interview. "Despite the different cultural backgrounds and languages of the different communities of color in Oakland, they all share one common, overriding concern — the health and welfare of their children. That common concern provides the basis for unity in PUEBLO."

The combination of a deadly threat and official inaction made lead a potent organizing issue. The lead campaign itself grew from the success the Campaign for Accessible Health Care had with another children-oriented campaign, the successful effort to get the city of Oakland to provide measles vaccinations to low-income children in 1988. The campaign not only prevented the measles deaths that hit other major cities, but also gave the new organization a measure of legitimacy around health and children's issues. In addition, the measles campaign established PUEBLO as a force to be reckoned with in local politics.

The start of the lead campaign, therefore, both initiated a new struggle and was built on an existing base. The first agency that PUEBLO went after was the State Department of Epidemiology and Toxicology, which did the 1988 study. PUEBLO members wanted them to release the results of their study, which identified the places where contamination was found. After receiving this information from the state, PUEBLO proceeded to pressure the County Hazardous Waste Management Division (HWMD) to test playgrounds and vacant lots where children play in the area for soil contamination. In a meeting with more than 80 PUEBLO members, Rafat Shahid, Director of the HWMD, agreed to test thirty sites in the area. A few weeks later, one playground which had lead contamination six times the allowable level was closed down. It is currently being abated.

Test Our Children Like You Should

At another action, this time to force Children's Hospital to actually do the free blood lead tests, about twenty PUEBLO families and twenty-five kids showed up and insisted that they be tested on the spot. "At first we thought they would do it," remembers PUEBLO leader Lacy Fosence, smiling, "and when they didn't, we created a ruckus to let people damn well know we were there!" The children got the tests, but in the process their parents found out that even Children's Hospital, which has a lab set up to do blood lead testing, did not have the paperwork procedures in place to do the free tests. As a result, PUEBLO members later received bills for what they are promised by state law — free lead tests for low-income, at-risk kids. (They refused to pay the bills, and later marched into the office of Martha Bureau, the Director of the Child Health & Disability Prevention (CHDP) program for the county, which is the agency responsible for providing free health screening for low-income children.)

The Children's Hospital action received wide publicity in the press. Members chanted "CHDP you're no good, test our children like you should!" in English, Spanish, and Chinese. PUEBLO's public show of concern as well as subsequent negotiations with CHDP officials forced program administrators to expand multi-lingual outreach efforts and accessibility to families. Up to that point, CHDP mostly did "com-

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WELCOME AND INTRODUCTION
INTRODUCCION Y BIENVENIDA
HISTORY OF "CAMPAIGN FOR ACCESSIBLE HEALTH CARE"
LEAD POISONING FACTS
WHAT CAMPAIGN HAS DONE?

PUEBLO's meetings and actions are often held in several languages

> **66** *The reason why the city, county and state didn't move their behinds to deal with this problem they have uncovered is because we're poor and we have black and brown faces.*
>
> *Those people in power don't think that our children are as special as those who are more well-off, who make big campaign contributions and who look different from us. Well, PUEBLO had to teach them a lesson on how real grassroots democracy ought to be!* **99**

munity outreach" from the confines of their offices. This campaign "win" was significant for PUEBLO members for a couple of reasons: first, it was a very concrete victory with immediate results; and second, it got their children into a health care system to which they previously had no access.

Other actions were done on the head of the Health Department Director David Kears and on the City Manager Henry Gardner. In each case, the immediate goal was different but the strategy was the same: to find the key pressure point and the individual with the power to move things along.

Kears, for example, has the authority to push hospitals to do the blood screening for lead poisoning, while in Oakland Henry Gardner is simply the most powerful figure in the city administration. Gardner was "jammed" on May 13, 1991 to unblock the City Council vote on Oakland's participation in the county-wide lead abatement plan. PUEBLO members knew that the final stage of the campaign would rest on the vote in the Oakland City Council.

The PUEBLO-inspired Lead Abatement Plan is a county-wide program that needed city council approval to buy into the plan. County officials regarded the City of Oakland as the linchpin for this county-wide program to work since Oakland had the majority of houses in the county built before 1978, and also had the worst documented lead poisoning problem. PUEBLO members quietly held meetings with each city council member and lobbied for their vote. By the end of April, 1991, a few weeks before the City Council vote, PUEBLO had managed to get commitments from the majority of the council members. "We wanted to give the politicians a chance to support our plan first before we publicly embarrassed them," Sandra Davis, chief organizer for PUEBLO, explained.

"Timing is everything," remarked Davis. "When we get press coverage, we try to keep the media's attention on what we think is important, but we can't always get them to say what we want when we want. That's why we took out that ad." "That ad" was a full-page paid advertisement in the *Oakland Tribune* that appeared a week before the scheduled City Council vote on the lead abatement plan. The ad, reproduced on page 29, asked "how long will Oakland's children be poisoned?," and featured a picture of a young child in the middle of the page.

Shining a Spotlight

Created by the non-profit Public Media Center in San Francisco, the ad directed a spotlight on the City Council members who had been dragging their feet on the vote. It got instant and widespread attention for the lead abatement plan, and by naming the three City Council members who had been opposed it not only embarrassed them, but made the members who were not named rather glad that they had supported the plan in the first place. On June 11, the City Council voted to make Oakland part of a county-wide lead abatement program that would be funded through a ten-dollar-per-year assessment on homes built before 1978. (1978 was the year in which lead as a paint additive was banned.) Five council members voted to endorse the plan, while three, including Mayor Elihu Harris (who previously supported PUEBLO's plan), abstained.

Starting on June 1992, a comprehensive program of community education, blood lead testing, environmental screening, and abatement of the source of lead in the child's environment will take place. The impact of PUEBLO's efforts goes far beyond its membership. "It's truly a systemic change forced from the ground up," said Davis, "but the next year is crucial. We have to hold the politicians and bureaucrats accountable to their commitments. We also need to make sure that the key elements of the Lead Abatement Plan are correctly implemented and the systems in place before the program begins in June next year."

PUEBLO is currently studying lessons in lead abatement procedures in the East Coast, specially in Baltimore and Massachusetts, to adapt in Oakland. Another aspect of interest to PUEBLO members is the possibility for employment for local residents in doing abatement work.

PUEBLO's efforts on lead have inspired similar undertakings in other cities in the area. A coalition of organizations is starting up in San Francisco, for example, with assistance from PUEBLO organizer Josué Guillen. "I think we can do the same thing here that we did in Oakland," Guillen told the *Trendsletter*, "depending of course on whether the group wants to do real organizing or not." "Real organizing," he explains, entails building power for people in the organization and developing leadership of people most impacted by the problem.

Similar requests have come from organizations around the country. Meanwhile, PUEBLO members are looking to build on their successes with the lead campaign, and move on to other issues. They have already gotten involved in fights over racist textbooks, discriminatory firings at the Oakland Army Base and the terrible housing conditions of many Oakland tenants. "We are getting stronger," says Lucy Fonseca with pride, "we have some good successes, and if we unite as we did with lead we are going to be more successful yet."

Francis Calpotura is CTWO's Co-Director

This article originally appeared in the Fall 1991 issue of the Minority Trendsletter.

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Get the lead out in toxics testing, county urged

By Judy Ronningen
The Tribune

A health activist group that correctly predicted Alameda County's measles epidemic is now pushing the county on a new front: lead poisoning.

About 50 members of the Campaign for Accessible Health Care gathered at county health chief David Kears' office yesterday, demanding tests for lead poisoning at 30 East Oakland parks, playgrounds and lots where children play.

Officials said the county had started the testing and would complete it in three to four months.

Chanting "David Kears, you can't hide, lead poisoning is genocide," the protesters carried plastic buckets — allegedly filled with tainted soil — to leave with Kears.

Gwen Hardy, a member of the campaign, said lead causes brain damage and learning disabilities among children.

Francis Calpoturna alleged that the county's environmental health director, Rafat Shahid, had agreed a month ago to test 30 sites, then reneged and said he would test only one. The sites are near the East 14th Street corridor where a state study found high levels of lead in homes in 1988.

"The main thing is that kids are still playing on those sites," he said.

Shahid said he had not agreed to a deadline, as the group claimed, but said the county had tested the five highest-priority sites already.

He said the county applied for a $200,000 grant to screen 3,000 children and to test for lead at 1,000 homes.

Kears and Shahid said the county's budget shortage, which could reduce health services by $17.8 million and close a ward at Highland Hospital, prevents them from doing more.

Calpoturna noted that the county also disregarded the group's warnings when they asked for a major measles vaccination campaign last year. Later, when the county was in a measles epidemic, county doctors admitted they had underestimated the problem.

Getting a measles shot: People United for a Better Oakland builds on a strong base created through a campain to obtain measels vaccines for low-income Oakland children. Known at the time as the Campaign for Accessible Health Care, the organization forced Alameda County to do something about the low vaccination rates in Oakland.

Oakland Tribune

Poor children not receiving free lead tests

By Judy Ronningen
The Tribune

Fewer than 40 percent of Alameda County's poor children get free checkups to which they are entitled through a state-funded program, county officials acknowledged yesterday.

And only a fraction of the preschoolers who get checkups are tested for lead poisoning, despite a state study that found high lead levels in 19 percent of East Oakland kids.

In a noisy protest in Spanish, English and Chinese, Oakland health activists yesterday alleged that Alameda County has done little to let parents know about the free checkups available through the Child Health and Disability Prevention program.

'CHDP, you're no good, test our children like you should.'

— protesting health activists

Chanting "CHDP, you're no good, test our children like you should," and toting signs that read "No Ha Hecho Nada Para Nosotros (You haven't done anything for us)," about 25 protesters from People United for a Better Oakland demanded that workers go door-to-door to reach parents, print brochures in several languages and require that lead tests be part of the checkups.

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San Francisco Examiner

State kids to get lead tests

Agreement expected to have nationwide impact

By Seth Rosenfeld
OF THE EXAMINER STAFF

In a case expected to have nationwide impact, California officials have tentatively agreed to begin routine testing of low-income children for lead poisoning, said to be a widespread but neglected health hazard.

The testing is part of a proposed settlement to a class-action lawsuit filed in U.S. District Court in San Francisco by several activist groups, one of their lawyers said Wednesday.

The tentative agreement means testing of an estimated 500,000 low-income California children could begin later this year, and it is expected to spur other states to comply with mandatory lead screening, the lawyer said.

The suit was filed last December on behalf of People United for a Better Oakland and two Long Beach children, Erika Matthews, 2, and Jalisa Matthews, 1.

California is one of at least 18 states that have failed to comply with a 1989 federal law that required all states receiving federal Medicaid funding to periodically test low-income children under age 7 for lead poisoning, which damages the brain and central nervous system and stunts growth.

Low-income children are especially vulnerable to poisoning from lead, which is found in deteriorating paint of older homes and near industrial and heavily trafficked areas.

Experts have estimated that more than 67 percent of black urban children, and 17 percent of all urban children, have been contaminated by excessive amounts of lead, the suit said.

EXPRESS

■ The East Bay's Free Weekly

Supervisors Take on Childhood Lead Poisoning

Oakland balks at joining the county plan

By Dashka Slater

In 1988, a State of California study found that 67 percent of Oakland's children have levels of lead in their blood high enough to cause permanent brain damage. "Childhood lead poisoning is the single most serious environmental health problem facing Oakland's children," says Susan Cummins, an environmental epidemiologist for the state. "Some studies have suggested that no level of lead in the blood is safe."

Now, three years after the extent of the problem was documented, Oakland and other Alameda County cities are still considering whether to be part of a countywide lead abatement program. While one would think that protecting children from lead poisoning would be the kind of baby-kissing proposal that every politician would want to support, the program has not had an easy time of it. In Oakland, where the lead problem has been best documented, the mayor and some members of the City Council have approached the program with such reluctance that People United for a Better Oakland (PUEBLO), the community group that has almost single-handedly placed lead poisoning on the county's agenda, was moved to take out a full-page ad in the *Oakland Tribune*. In two-inch letters, the ad queried: "Hey, Gibson-Haskell...Spees...Basile... HOW LONG WILL OAKLAND LET CHILDREN BE POISONED?"

DEATH
OCCUR
LEAD!

People United for a Better Oakland is a sponsored project of the Center for Third World Organizing.

PUEBLO can be reached at (510) 533-0919 or write to 1218 East 21st Street, Oakland, CA 94606.

CTWO can be contacted at (510) 654-9601, or by writing to 3861 Martin Luther King Jr. Way, Oakland, CA 94609.

Design and Production by John Anner

Original art by Aristedes Cisneros

Printing by Inkworks

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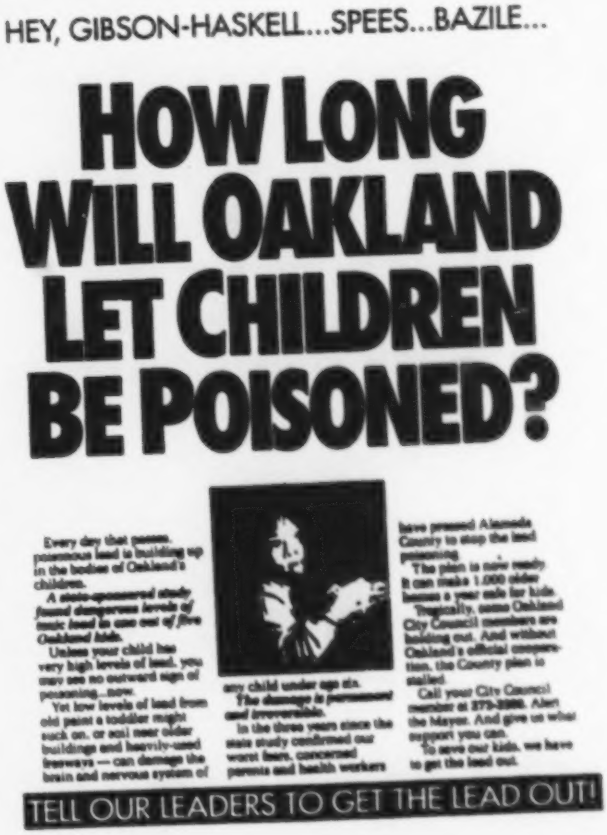
PUEBLO members and supporters head out to visit Oakland City Manager Henry Gardner to persuade him to resist the "apple of temptation." Gardner agreed to reconsider the Lead Abatement Plan, and to write a staff recommendation to the Oakland City Council.

Thanks to the determined efforts of the members of People United for a Better Oakland, children in Oakland neighborhoods may someday live in a lead-free community where they will no longer be poisoned in their homes and playgrounds.



HEY, GIBSON-HASKELL...SPEES...BAZILE...

HOW LONG WILL OAKLAND LET CHILDREN BE POISONED?

Every day that passes, poisonous lead is building up in the bodies of Oakland's children.

A state-sponsored study *found dangerous levels of toxic lead in one out of five Oakland kids.*

Unless your child has very high levels of lead, you may see no outward sign of poisoning...now.

Yet low levels of lead from old paint a toddler might suck on, or soil near older buildings and heavily-used freeways — can damage the brain and nervous system of any child under age six.

The damage is permanent and irreversible.

In the three years since the state study confirmed our worst fears, concerned parents and health workers have pressed Alameda County to stop the lead poisoning.

The plan is now ready. It can make 1,000 older homes a year safe for kids.

Tragically, some Oakland City Council members are holding out. And without Oakland's official cooperation, the County plan is stalled.

Call your City Council member at [illegible]. Alert the Mayor. And give us what support you can.

To save our kids, we have to get the lead out.

TELL OUR LEADERS TO GET THE LEAD OUT!

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Community Checklist

1. How many children in your community were screened for lead poisoning last year?

   Why important:
   In New Jersey, we test only one third of the "high risk" children and do not have reliable information about the number of children tested privately.
   Where:
   Call your local health department for information about your community.

2. How many children in your community were lead poisoned last year?

   Why important:
   In New Jersey, 1500 children were lead poisoned. Of these, 400 were severely poisoned.
   Where:
   Call your health department for local statistics.

3. Are there lead poisoning screening programs in your community?

   Why important:
   Local health departments are responsible for lead poisoning prevention efforts and testing. The state funds fourteen lead poisoning prevention programs.
   Where:
   Call your local health department.

4. Are old homes in your community being renovated? Are people sandblasting or burning old paint?

Why important:
Lead is released into the air when people sand or burn old paint. People breathe in lead-laden dust or swallow dust. Lead-laden dust remains in the house a long time.
Where:
A walking tour and observation will give you information.

5. How old are homes in your community?

Why important:
Wooden siding and windows of houses built before 1960 probably were painted inside and out with lead-based paint. Lead-based paint for home use was phased out by the late 1970s.
Where:
The local tax office may have information.

6. Are houses made of wood?

Why important:
People painted wooden homes with lead-based paint. Over the years, lead paint chips off the exterior walls. Around homes painted with lead-based paint, lead probably leached into the soil.
Where:
A driving tour and observation will help you identify the problem.

7. Are vacant lots and playgrounds bare dirt?

Why important:
Some yards, vacant lots, or playgrounds have no grass or shrubbery covering the soil. While playing on bare soil, children can get lead-laden dust in their lungs or put soil covered hands in their mouths. Lead can be absorbed through the lungs or stomach.
Where:
A walking tour will help your committee identify vacant, bare lots.

8. Do may of the houses in your community have visible peeling paint outside? Is there peeling paint inside the houses?

Why important:
Children sometimes eat peeling paint. Lead-based paint chips taste sweet, which encourages children to continue eating paint. Removing peeling paint inside the house, sweeping up chips and raking up peeling paint outside can help protect children. Children can also get lead on their hands after touching old paint that becomes powdery.
Where:
Your walking or driving tour may provide some information about house exteriors; your local health department may have information about instances of interior paint problems.

9. Is lead in your water?

A. Is your community located in an area with corrosive water?

Why important:

Lead soldered pipes, lead plumbing and lead well caps can be sources of lead in drinking water. Lead is released by corrosive water. Corrosive water, found in many parts of New Jersey, is soft water that is either very acidic or very alkaline. A recent DEP study maps the location of corrosive water in New Jersey.

Where:

Call your local water department for information.

B. Are there lead pipe service lines in your community?

Why important:

Some older cities have lead service connections. The service connections connect the main line to the plumbing in the house. Until the time that they are replaced, running tap water for five to seven minutes before using the water flushes the system. A recent DEP survey analyzed lead in the water of schools in New Jersey.

Where:

Call your local water department for information.

10. Do companies in your community use lead? Are workers exposed to lead? Are workers lead poisoned?

Why important:

People working in factories making batteries, glassworkers, workers in radiator repair shops, stained glass workers, fishermen making sinkers or fishing flies, musket shot makers, potters, jewelers, and other workers expose themselves to lead. Are companies and workers following adequate safety practices? The New Jersey Department of Environmental Protection in Trenton conducts an industrial survey of large companies that use lead.

Where:

Call the DEP for information about any large manufacturing plants in your community. Check your local telephone directory to locate smaller companies.

EPA 56–1–89–002

TOXIC AND HAZARDOUS SUBSTANCES, TITLE III AND COMMUNITIES

An Outreach Manual for Community Groups

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September 1989

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Introduction

"A basic tenet of risk communication in a democracy is that people and communities have a right to participate in decisions that affect their lives, their property, and the things they value."

Seven Cardinal Rules of Risk Communication
U.S. Environmental Protection Agency

A new law gives citizens the right to know about the toxic and other hazardous substances in their communities. But there is a lot more than that to Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). Its intent is to give people a say in deciding what to do about risks in their communities. Its ultimate goal is public participation in these decisions.

How do communities get from emissions and inventory data to participation in decisions? The answer lies in public information, education, dialogue—in short, communication. If you are a member of a local emergency planning committee (LEPC), an LEPC information subcommittee, or other community group concerned with Title III, part of your job is communication.

About this manual:

This manual was prepared for State and local government officials, LEPCs, and other community groups that want to make Title III work. It is intended as a practical guide for those who have little or no previous experience in the field of communication, whose time must be snatched from home and office, and whose resources are limited.

As a guide to the process of communication, this manual should be used in conjunction with other resources. Another EPA publication, *Risk Communication About Chemicals in Your Community*, discusses ways to develop substantive responses to questions about the information becoming available under Title III. Technical experts within each community are valuable resources, as are State health and environmental agencies. Also see the Resources listed at the end of each chapter and in Appendix B.

The manual has three major sections:

- **Part I** discusses planning, which is vital to the success of a communication program.
- **Part II** suggests ways to get and keep people involved, especially important because Title III affects so many different sectors of the community.
- **Part III**, a how-to-do-it section, talks about specific tasks, such as giving a speech or writing a press release.

intermediaries. Consult with others to determine who is best able to answer questions about risk. Try to issue communications jointly with other trustworthy sources (for example, credible university scientists, physicians, or trusted local officials).

Point to Consider:

- Few things make risk communication more difficult than conflicts or public disagreements with other credible sources.

Meet the needs of the media

The media are a prime transmitter of information on risks; they play a critical role in setting agendas and in determining outcomes.

Guidelines: Be open with and accessible to reporters. Respect their deadlines. Provide risk information tailored to the needs of each type of media (for example, graphics and other visual aids for television). Prepare in advance and provide background material on complex risk issues. Do not hesitate to follow up on stories with praise or criticism, as warranted. Try to establish long-term relationships of trust with specific editors and reporters.

Point to Consider:

- The media are frequently more interested in politics than in risk; more interested in simplicity than in complexity; more interested in danger than in safety.

Speak clearly and with compassion

Technical language and jargon are useful as professional shorthand. But they are barriers to successful communication with the public.

Guidelines: Use simple, non-technical language. Be sensitive to local norms, such as speech and dress. Use vivid, concrete images that communicate on a personal level. Use examples and anecdotes that make technical risk data come alive. Avoid distant, abstract, unfeeling language about deaths, injuries, and illnesses. Acknowledge and respond (both in words and with actions) to emotions that people express—anxiety, fear, anger, outrage, helplessness. Acknowledge and respond to the distinctions that the public views as important in evaluating risks, e.g., voluntariness, controllability, familiarity, dread, origin (natural or man-made), benefits, fairness, and catastrophic potential. Use risk comparisons to help put risks in perspective, but avoid comparisons that ignore distinctions that people consider important. Always try to include a discussion of actions that are under way or can be taken. Tell people what you cannot do. Promise only what you can do, and be sure to do what you promise.

Points to Consider:

- Regardless of how well you communicate risk information, some people will not be satisfied.
- Never let your efforts to inform people about risks prevent you from acknowledging—and saying—that any illness, injury, or death is a tragedy.
- If people are sufficiently motivated, they are quite capable of understanding complex risk information, even if they may not agree with you.

This pamphlet was drafted by Vincent T. Covello and Frederick W. Allen, with the assistance and review of numerous colleagues in and out of government. Covello is Director of the Center for Risk Communication at Columbia University and is currently President of the Society for Risk Analysis (SRA). The views expressed here do not necessarily represent the views of Columbia University or the SRA. Allen is Associate Director of the Office of Policy Analysis at the Environmental Protection Agency (EPA). The EPA has published this pamphlet as a non-binding reference document, recognizing that the manner in which the guidance should be applied will necessarily vary from case to case. The authors invite your comments.

United States
Environmental Protection Agency
Washington DC 20460

May
1992
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EPA

Seven Cardinal Rules of Risk Communication

Printed on Recycled Paper

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There are no easy prescriptions for successful risk communication. However, those who have studied and participated in recent debates about risk generally agree on seven cardinal rules. These rules apply equally well to the public and private sectors.

Although many of the rules may seem obvious, they are continually and consistently violated in practice. Thus, a useful way to read these rules is to focus on why they are frequently not followed.

Accept and involve the public as a legitimate partner

A basic tenet of risk communication in a democracy is that people and communities have a right to participate in decisions that affect their lives, their property, and the things they value.

Guidelines: Demonstrate your respect for the public and underscore the sincerity of your effort by involving the community early, before important decisions are made. Involve all parties that have an interest or a stake in the issue under consideration. If you are a government employee, remember that you work for the public. If you do not work for the government, the public still holds you accountable.

Point to Consider:

- The goal of risk communication in a democracy should be to produce an informed public that is involved, interested, reasonable, thoughtful, solution-oriented, and collaborative, it should not be to diffuse public concerns or replace action.

Plan carefully and evaluate your efforts

Risk communication will be successful only if carefully planned.

Guidelines: Begin with clear, explicit risk communication objectives—such as providing information to the public, motivating individuals to act, stimulating response to emergencies, or contributing to the resolution of conflict. Evaluate the information you have about the risks and know its strengths and weaknesses. Classify and segment the various groups in your audience. Aim your communications at specific subgroups in your audience. Recruit spokespeople who are good at presentation and interaction. Train your staff—including technical staff—in communication skills; reward outstanding performance. Whenever possible, pretest your messages. Carefully evaluate your efforts and learn from your mistakes.

Points to Consider:

- There is no such entity as "the public"; instead, there are many publics, each with its own interests, needs, concerns, priorities, preferences, and organizations.
- Different risk communication goals, audiences, and media require different risk communication strategies.

Listen to the public's specific concerns

If you do not listen to people, you cannot expect them to listen to you. Communication is a two-way activity.

Guidelines: Do not make assumptions about what people know, think, or want done about risks. Take the time to find out what people are thinking: use techniques such as interviews, focus groups, and surveys. Let all parties that have an interest or a stake in the issue be heard. Identify with your audience and try to put yourself in their place. Recognize people's emotions. Let people know that you understand what they said, addressing their concerns as well as yours. Recognize the "hidden agendas," symbolic meanings, and broader economic or political considerations that often underlie and complicate the task of risk communication.

Point to Consider:

- People in the community are often more concerned about such issues as trust, credibility, competence, control, voluntariness, fairness, caring, and compassion than about mortality statistics and the details of quantitative risk assessment.

Be honest, frank, and open

In communicating risk information, trust and credibility are your most precious assets.

Guidelines: State your credentials; but do not ask or expect to be trusted by the public. If you do not know an answer or are uncertain, say so. Get back to people with answers. Admit mistakes. Disclose risk information as soon as possible (emphasizing any reservations about reliability). Do not minimize or exaggerate the level of risk. Speculate only with great caution. If in doubt, lean toward sharing more information, not less—or people may think you are hiding something. Discuss data uncertainties, strengths and weaknesses — including the ones identified by other credible sources. Identify worst-case estimates as such, and cite ranges of risk estimates when appropriate.

Point to Consider:

- Trust and credibility are difficult to obtain. Once lost they are almost impossible to regain completely.

Coordinate and collaborate with other credible sources

Allies can be effective in helping you communicate risk information.

Guidelines: Take time to coordinate all inter-organizational and intra-organizational communications. Devote effort and resources to the slow, hard work of building bridges with other organizations. Use credible and authoritative

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RESOURCE GUIDE FOR FINANCING LEAD-BASED PAINT CLEANUP

ALLIANCE TO END CHILDHOOD LEAD POISONING
600 Pennsylvania Ave., S.E., Suite 100
Washington, D.C. 20003

TITLE: Existing Lead Abatement Financing Sources: Commonwealth of Massachusetts

SOURCE: National Center for Lead-Safe Housing

DESCRIPTION: The National Center for Lead-Safe Housing undertook a series of case studies on state and local lead hazard control financing mechanisms because of their critical role in lead poisoning prevention. The chart summarizes of the programs in operation in the Commonwealth of Massachusetts.

August 1994

EXISTING LEAD ABATEMENT FINANCING SOURCES
COMMONWEALTH OF MASSACHUSETTS

Program Name/Agency	Target Population	Funding Amount/Source	How Money is Used
"GET THE LEAD OUT" MHFA single-family **(newly revised)**	For single family (1-4 units) hsng: 0% deferred loans for low and moderate - income owner-occupants and 3% loans for investor owners and CDCs. 50% of funds will be targeted for "high risk" areas.	$11 million: $10 million from tax-exempt bond funds, with rate subsidized from $3 mm from SBLI fund. $1 mm from SBLI set aside for 0%, d.p. loans. An additional 2.25 million was made available from state appropriations for FY94, and $4.5 million for FY95..	0% deferred loans are due on transfer of property; 3% loans have terms from 5-15 years. Maximum loan is $5,000 per unit, and $20,000 per building.
STATE TAX CREDIT PROGRAM MHFA	Not targeted, but only useful to owners or tenants (if they have paid for abatement) who have taxable income.	Maximum of $1,500/unit, where a certified inspector has verified the presence of lead and where abatement results in letter of compliance.	Person pays for rehab directly; credit is subtracted from state taxes owed at end of year.
HUD/STATE LEAD ABATEMENT PROGRAM EOCD/MHFA	For low/mod income owners-occupants or low-income renters; priority to families with children under 6.	$5 mm in HUD grants are available to subgrantees who may use the funds as either grants or loans in the following ways: 1)up to $1 mm each to neighborhood-based projects, 2)up to $300,000 to be used as gap-filler in a project, and 3)up to $500,000 each for large buildings.	2-3 neighborhood-based programs in high risk areas;2-5 large building abatement projects 6-10 gap filler programs (leveraging local funds)

HUD/BOSTON LEAD ABATEMENT PROGRAM Public Facilities Dep't.	Owner-occupants who earn max. 95% of PMSA median; investor owners with total inc. of max $65,000. 75% targetted to Dorchester, Roxbury and Matapan.	$2mm from HUD plus $1.23 from CDBG. May be used in conjunction with their existing rehab programs.	Max. $15,000 for abatement; 1/3 grant; 2/3 loan at 1% or dpl.
MHFA EXISTING PORTFOLIO, REO ACQUISITIONS AND NEW BUSINESS	For income-eligible investor-owned properties.	Various funding sources including standard tax-exempt bonds, federal programs such as Sec. 8, HUD foreclosures, etc.	Require evidence that Mass. Lead Law is being complied with.
SOFT-SECOND AFFORDABLE FIRST TIME HOME BUYER PROGRAM State appropriations plus bank funds	First-time, income eligible homebuyers of 1-4 unit properties.	Uses state (and some city) subsidy to reduce rate on the soft second mortgage for first five years of 30 yr.loan State also pays $2,000 up front into loan loss reserve which substitutes for PMI.	Bank makes 75% ltv first mortgage; and 20% soft second. Will do acquisition/rehab loans, but cannot exceed 100% of value, which has been a problem. Rehab can include lead abatement.
LOAN GUARANTY PROGRAM Mass. Housing Partnership	For-profit and non-profit investor-owners of multi-family properties	$1mm available from SBLI fund to provide guarantees to bank loans for properties where at least half the tenants earn ≤80% of median.	Provides 100% guarantee for loans for lead-abatement. But after 1 year, no loans have been made. Program will either be revamped or canceled.

l.p = lead poisoned
dpl = deferred payment loan

In addition to the above financing sources, most other existing federal, state and local programs (HOME, HOPE, CDBG, etc.) which pay for rehab can and do cover lead abatement costs, as long as total costs of the project fit within established maximum loan amounts.

A $369 million general obligation bond issue has been authorized, but the Governor still has to put it in his capital budget. $130 million will be used for public housing modernization, which entails bringing the housing up to code. Since lead abatement is part of the code, significant lead work (approximately $30 - $40 million) will get done in the public housing stock.

TITLE OF MATERIAL: Fact Sheet

USE OF MATERIAL: This material is used by inspectors to inform about the availability of funds for deleading.

TARGETED AUDIENCE: Property owners

LEAD PAINT ABATEMENT PROGRAM

EXECUTIVE OFFICE OF COMMUNITIES AND DEVELOPMENT (EOCD)
and the
MASSACHUSETTS HOUSING FINANCE AGENCY (MHFA)

The lead paint abatement program offered by EOCD and MHFA is designed to provide low- and moderate-income families statewide with financing to remove lead paint from their homes, safely and affordably. Loans are being funded through the use of bond proceeds, raised through the sale of tax-exempt MHFA bonds to private investors, and with approximately $5.4 million of the total state savings created by legislation sponsored by Dorchester Rep. Thomas Finneran which consolidated functions of state savings bank life insurance (SBLI) providers. More than 1,000 low- and moderate-income homeowners are expected to benefit from this financing opportunity. Here are some of the most often asked questions.

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WHAT ARE THE FINANCING TERMS?

Up to $15,000 per loan is available at fixed interest rates of 5% or 7.5%, depending upon income. The minimum loan term is six months; the maximum term is 15 years.

WHO IS ELIGIBLE?

Existing owner-occupants of one- to four-family homes whose income does not exceed certain levels may qualify for financing. Income limits vary depending upon household size and on where in the state the home is located. For a two or more person household:

- limits for 5% financing range from $43,000 in the Boston area to $39,600 in the western part of the state.
- limits for 7.5% financing range from $57,000 in the Boston area to $52,000 in the western part of the state.

IS THERE ANY HELP AVAILABLE FOR FAMILIES WHO NEED THIS FINANCING, BUT CAN'T AFFORD IT RIGHT NOW?

Yes. Approximately $1 million in financing will be set aside at 0% interest for households who are under a court order to remove lead paint, but whose credit history and/or income normally would prevent them from qualifying for financing. Repayment of these loans is not required until the property is sold, transferred or refinanced. This pool of 0% financing will be reserved for a minimum of one year.

WHO WILL HAVE PRIORITY FOR THE FINANCING?

For at least one year, 80% of the loan funds will be targeted as follows:

- 50% must be targeted for households where a lead poisoned child is residing, and
- 30% must be targeted for:
  - households under a court order to delead;
  - households with children under six years of age;
  - owners of 2-4 family homes where children under six years of age may reside in rental units.

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Is there any money available for larger rental properties?

Although not yet finalized, the Massachusetts Bankers Association, the Massachusetts Housing Partnership, the Massachusetts Association of Community Development Corporations, and the MHFA are designing a program to provide loans for the de-leading of rental properties containing five or more units. $1 million of the SBLI savings has been reserved for this program.

How do I apply for financing?

Financing will be available through local community development agencies and lending institutions statewide with actual de-leading work to be done only by state-certified inspectors and licensed contractors. Consumers will be asked to contact a participating local agency directly for assistance in:

- determining whether they are eligible for financing;
- arranging for lead paint inspections;
- identifying contractors who have been licensed by the Commonwealth to remove lead paint;
- reviewing a contractor's estimate for reasonableness;
- directing consumers to lending institutions where they will complete loan applications;
- coordinating the disbursement of funds to the contractor and verifying the contractor's work was completed according to specification.

When will financing be available?

Financing will be made available to the public on March 18, 1992.

How do I get more information?

The availability of funds will be widely publicized through the print and broadcast media, through advocacy groups, and local community development corporations statewide once participating local rehabilitation agencies have been selected by MHFA. Until that time, interested consumers can be placed on a mailing list to receive more information about the program by contacting MHFA's Office of Single Family Programs, (617)451-2766.

(508) 794-5891 → wayne maille
ext. 130

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TITLE OF MATERIAL: Letter

USE OF MATERIAL: This material is used by inspectors to inform about the availability of funds for deleading.

TARGETED AUDIENCE: Property owners

GREATER LAWRENCE
COMMUNITY ACTION COUNCIL, INC.

MERRIMACK VALLEY
Lead Poisoning Prevention Program
350 ESSEX STREET • LAWRENCE, MASS. 01840 • TEL. (508) 686-4470

PHILIP F. LAVERRIERE, SR.
Executive Director

WILLIAM J. O'DONNELL
Project Director

To Homeowner,

Enclosed are numbers listed for various sources of funding for deleading. Each program has different qualifications.

Aside from the other agencies enclosed, I have listed below additional numbers available. If you are going to contact the agencies below, the unit must exist in the city or town you are contacting.

For example, if the unit in question is in Methuen, you would contact Methuen Rehabilitation.

Methuen Rehabilitation
Rina Petit
Tel.: (508) 975-7766

Lawrence Neighborhood Housing
Tel.: (508) 682-9010
*Funding available for upper Tower Hill area

Haverhill Community Development
Sharon Ruocco
Tel.: (508) 374-2348
*Leaded unit must be owner occupied

Partnership for Lead Free Haverhill
Carmen Torres
Tel.: (508) 681-4940
*Leaded units must be owner occupied.

Enclosure

TITLE OF MATERIAL: Letter

USE OF MATERIAL: This material is used by inspectors to inform about the availability of funds for deleading.

TARGETED AUDIENCE: Property owners

BayBanks, Inc
175 Federal Street
Boston, MA 02110

Thomas B. Kennedy
Community Affairs Director

BayBanks

Dear Community Leader:

BayBank is pleased to introduce two new programs of interest to homeowners in your community:

- BayBank's affordable Home Improvement Loan Program allows qualified homeowners in Massachusetts to borrow from $3,500 to $15,000 for home improvement projects at a fixed annual percentage rate of just **8.99%*** — *one of the lowest rates available today!* And this rate can be reduced by an additional 1/2% when customers have their monthly payments deducted automatically from their BayBank checking or savings accounts.

  To qualify, an applicant must be the owner of a 1- to 4-family home or condominium in Massachusetts. There is a maximum gross annual household income allowance of $45,000 for a family of four, and $4,000 additional income is allowed for each additional family member.

- BayBank would also like to assist members of your community with unresolved complaints about work or financing handled through home improvement contractors. Anyone with an unresolved complaint who financed a home improvement project with BayBank between November 15, 1987, and February 19, 1992, may be entitled to relief such as corrective repairs or adjustments to financing.

I hope you'll share this exciting new information with members of your local community by placing the enclosed flyers at convenient locations in your area.

Sincerely,

Thomas B. Kennedy

Thomas B. Kennedy
Community Affairs Director

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* Rate in effect through June 2, 1992, and is subject to change after that time.

TITLE OF MATERIAL: Guidelines Set for Claiming Lead Paint Removal Tax Credit for Deleading by Licensed Contractors

USE OF MATERIAL: This material is used by inspectors to inform about availability of funds for deleading.

TARGETED AUDIENCE: Property owners

Massachusetts Department of Revenue (attc 2)

NEWS RELEASE

For Release: Contact:

September 6, 1990 Michelle Andrews

GUIDELINES SET FOR CLAIMING LEAD PAINT REMOVAL TAX CREDIT FOR DELEADING BY LICENSED CONTRACTORS

The Department of Revenue (DOR) has issued a Technical Information Release (TIR 90-6) which describes how taxpayers can claim a credit on their income tax returns for deleading their homes, following a determination by the Department of Labor and Industries (DLI) that covering the lead paint on the exterior of a building may be done by a non-licensed contractor. The TIR supplements an existing regulation issued in May 1989 on the lead paint removal tax credit.

"The statute is very clear that taxpayers can only claim the tax credit for deleading done by a licensed deleader," said Revenue Commissioner Stephen W. Kidder. "As a practical matter, however, DLI's ruling won't prevent most taxpayers from claiming the tax credit because they can apply the credit to all interior and exterior deleading, work which must be done by licensed deleaders."

The legislation passed in January 1988 allows home owners and tenants to claim a tax credit of up to $1,000 for removing lead paint from their dwellings, including both the interior and exterior. In order to claim the credit, the law requires that a licensed inspector first inspect the building, then a licensed deleader-contractor remove the lead paint, and then the property be reinspected.

The Department of Labor and Industries, which licenses deleader-contractors, recently determined that covering lead-contaminated exteriors may be done by a non-licensed deleader, but that interior deleading and any exterior work that creates lead-contaminated dust must still be done by licensed contractors. Taxpayers can only claim the tax credit for work done by licensed contractors.

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Office of Communications • 100 Cambridge Street • Boston, MA 02204 • (617) 727-4256

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TITLE OF MATERIAL: Certificate of Lead Paint Covering or Removal

USE OF MATERIAL: Lead program form that inspector needs to fill out for tax rebate.

Form CLP

Massachusetts Department of Revenue

Certificate of Lead Paint Covering or Removal

(complete one form for each residential unit)

Name(s) of person(s) claiming credit			tenant ☐ owner ☐	Social security number
Street address of deleaded unit	Apt. number	City	State	ZIP code
Name(s) of owner(s) if not claiming credit				Social security number
Name of registered or licensed inspector		License or registration no.		Social security no. or federal I.D. no.
Street address of inspector	City		State	ZIP code
Name of certified or licensed deleader		License or certification no.		Social security no. or federal I.D. no.
Street address of deleader	City		State	ZIP code
Please describe the general nature of the deleading. (list the number of rooms and windows with violations, any exterior violations, and method(s) of deleading)				

I am a registered or licensed inspector. I have inspected the property located at ______________________________

____.
(street address and apartment number, if any)

including all common areas, in ______________________ (city), Massachusetts on ______________________ (date of compliance/certification).

I certify that those surfaces cited in the lead paint inspection report of ______________________ (initial inspection date) now comply with Massachusetts General Laws, Chapter 111, Section 197, and the Regulations for Lead Poisoning Prevention and Control.

To the best of my knowledge, the cost of the legally required deleading is $ ______________.

____
(signature of registered or licensed inspector)

> The inspector must mail this form to the Massachusetts Department of Revenue, P.O. Box 7060, Boston, MA 02204. A copy must also be attached to Schedule LP of the Massachusetts income tax return of the taxpayer(s) claiming the Lead Paint Credit.

(This Form May Be Reproduced)

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